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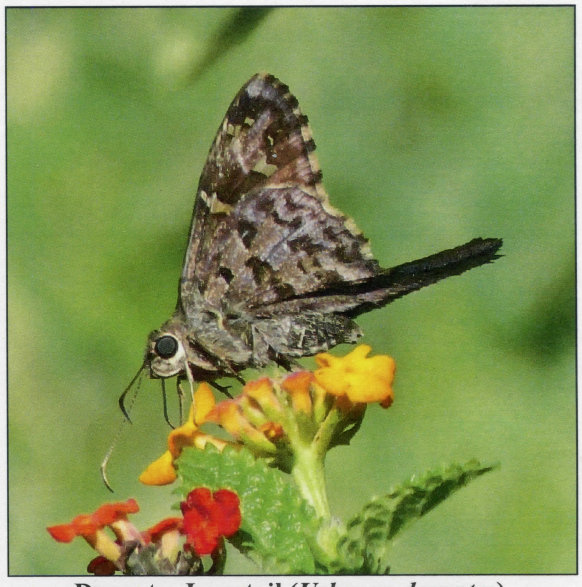
THE OFFICIAL PUBLICATION OF THE SOUTHERN LEPIDOPTERISTS' SOCIETY ORGANIZED TO PROMOTE SCIENTIFIC INTEREST AND KNOWLEDGE RELATED TO UNDERSTANDING THE LEPIDOPTERA FAUNA OF THE SOUTHERN REGION OF THE UNITED STATES (WEBSITE: www.southernlepsoc.org/)

J. BARRY LOMBARDINI: EDITOR

LONG-TAILED SKIPPERS

PHOTOGRAPHS BY
MONICA KRANCEVIC

White-striped Longtail (*Chioides albofasciatus*) on *Pentas lanceolata.*



Dorantes Longtail (*Urbanus dorantes*) on *Lantana urticoides.*

Both Long-tailed skippers were photographed in Lake Jackson, Brazoria County, Texas. These butterflies are observed from summer through mid-December.

(Monica Krancevic, E-Mail: mmk77566@gmail.com)

MANY THANKS TO ALL YOU HAVE DONATED TO THE SL SOCIETY BOTH PAST AND PRESENT

Benefactor +

Matthew Blaine

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WELCOME TO OUR NEW MEMBERS

Ed Roberts Jr.
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Long-tailed Skipper (*Urbanus proteus*) on *Zinnia*. (Lake Jackson, Brazoria County, Texas. (Photo by Monica Krancevic.)

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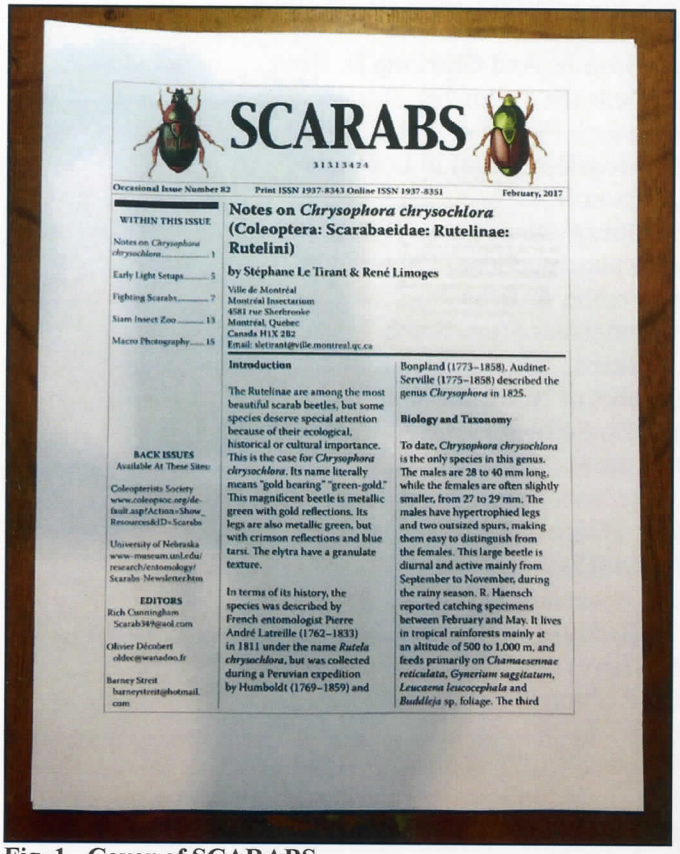
AN INTERESTING ARTICLE FOR LEPIDOPTERISTS

BY

F. MATTHEW BLAINE

I read my first issue of **SCARABS** back in 1990. It is an occasional publication by a group of entomologists who study scarabs. Over the years I found it to contain many humorous and interesting articles. One nice thing about the publication is that it is available for free and can easily be downloaded from the Coleopterists Society's website at >http://www.coleopsoc.org/default.asp?Action=Show_Resources&ID=Scarabs<. It can also be found by first visiting **The Coleopterists Society** website then clicking on **Resources** then on **Beetle Newsletters & Open Access Journals** and finally on **SCARABS** where you will find a list of all 83 issues and an up to date index listed. Simply click on **# 82 2/2017** to download the issue of which I speak (Fig. 1). In it on page 5 you will find an article written by Barney Streit entitled **First Mention of a Portable Light Setup?** The article is about observations and experiences recorded by Alfred Russell Wallace while he was in Borneo from November 1855 to January 1856 (Fig. 2). While the article is in a publication primarily for Coleopterists interested in Scarabs, the majority (90%) of the article is about collecting Lepidoptera. Wallace also makes some interesting observations about the weather's effect on collecting in this article. If you have a chance to download a copy I think that you will find the article quite interesting.



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Notes on *Chrysophora chrysochlora* (Coleoptera: Scarabaeidae: Rutelinae: Rutelini)

by Stéphane Le Tirant & René Limoges

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Introduction

The Rutelinae are among the most beautiful scarab beetles, but some species deserve special attention because of their ecological, historical or cultural importance. This is the case for *Chrysophora chrysochlora*. Its name literally means "gold bearing" "green-gold." This magnificent beetle is metallic green with gold reflections. Its legs are also metallic green, but with crimson reflections and blue tarsi. The elytra have a granulate texture.

In terms of its history, the species was described by French entomologist Pierre André Latreille (1762–1833) in 1811 under the name *Rutela chrysochlora*, but was collected during a Peruvian expedition by Humboldt (1769–1859) and Bonpland (1773–1858). Audinet-Serville (1775–1858) described the genus *Chrysophora* in 1825.

Biology and Taxonomy

To date, *Chrysophora chrysochlora* is the only species in this genus. The males are 28 to 40 mm long, while the females are often slightly smaller, from 27 to 29 mm. The males have hypertrophied legs and two outsized spurs, making them easy to distinguish from the females. This large beetle is diurnal and active mainly from September to November, during the rainy season. R. Haensch reported catching specimens between February and May. It lives in tropical rainforests mainly at an altitude of 500 to 1,000 m, and feeds primarily on *Chamaesannae reticulata*, *Gynerium sagittatum*, *Leucaena leucocephala* and *Buddleja* sp. foliage. The third

Fig. 1. Cover of SCARABS Occasional Issue #82 February 2017

First Mention of a Portable Light Setup?

by Barney Streit

Shortly before I relocated to Singapore, it was recommended to me that I read *The Malay Archipelago*, by Alfred Russell Wallace. Wallace, known as the co-discoverer of natural selection, along with Charles Darwin, collected natural history specimens in the archipelago between 1854 and 1862. Of the insects, he was most interested in Coleoptera and Lepidoptera.

He was in Borneo from November 1855 to January, 1856. One of the places he stayed was in the valley of Sarāwak, in a remote cottage on Peninjauh, a very steep mountain of crystalline basaltic rock, about a thousand feet high, and covered with luxuriant forest. What follows is an interesting account of his light collecting. The tables he mentions have been left out.

A few days afterwards I returned to the mountain with Charles and a Malay boy named Ali and stayed the three weeks for the purpose of making a collection of land-shells, butterflies and moths, ferns and orchids. On the hill itself ferns were tolerably plentiful, and I made a collection of about forty species. But what occupied me most was the great abundance of moths which on certain occasions I was able to capture. As during the whole of my eight years' wanderings in the East I never found another spot where these insects were at all plentiful, it will be interesting to state the exact conditions under which I found them.

On one side of the cottage there was a verandah, looking down the whole side of the mountain and to its summit on the right, all densely clothed with forest. The boarded sides of the cottage were whitewashed, and the roof of the verandah was low, and also boarded and whitewashed. As soon as it got dark I placed my lamp on a table next to the wall, and with pins, insect-forceps, net, and collecting boxes by my side, sat down with a book. Sometimes during the whole evening only one solitary moth would visit me, while on other nights they would pour in, in a continual stream, keeping me hard at work catching and pinning till past midnight. They came

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Fig. 2. Page 5 with article First Mention of a Portable Light Setuop? By Barney Streit

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A THOUSAND WORDS PAINT A PICTURE
— TIPS FOR BUTTERFLY PHOTOGRAPHY —

BY
KATHY C. MALONE

When I began to observe butterflies about 20 years ago, I swore I'd never purchase a camera because all that stuff about ISO, shutter speed and f-stop seemed confusing. Why would I want to complicate my life? Then a friend of mine purchased one so she could learn the skippers. She'd photograph them, study the photos, and make accurate identifications in the field. I began to envy her ID wizardry!

Not to be outdone, I ultimately got a camera and macro lens and have since become addicted to butterfly photography. I've even begun to try my hand at bird photography. This has led me to experiment with my longer "bird (zoom) lens" for butterfly photography.

My 20-something, technology-aware, son once told me that one can produce a great photo in a variety of ways. So these tips are not "one size fits all":

Use manual settings to control your shots

When using my 100mm macro, I start with a "baseline" setting I might tweak given conditions. My initial setting usually is 200 shutter speed with the pop up flash, f-stop 13, and ISO 320. I adjust the ISO to 200 or 250 if it's sunny or to 400 to 640 if it's shady or cloudy. I find a shutter speed of 200 rather than 250 produces greater light when I have increased the f-stop beyond 13. A greater f-stop (high number) helps me get wingtip to wingtip sharpness as long as I allow enough light into the lens via the flash, slower shutter speed, and higher ISO.

When using my 100-400 long lens I might use a greater depth of field, such as f-stop 14 – 18. With a lower f-stop (lower number), wingtips sometimes are not sharp with a dorsal shot. Sometimes all parts of the butterfly are not sharp.

A long lens comes in handy when there are numerous people who want to photograph a butterfly simultaneously. The lens allows a greater distance from the butterfly. It's also great for documentation shots when you don't want to risk scaring a butterfly before you get a closer shot. (Fig. 1) Finally, I use it if there's an impediment that keeps me from getting close. A macro lens of 100mm most always produces finer detail, but sometimes it's just not practical to move in close, and the long lens gets acceptable results. (Fig. 2) A drawback to the long lens is that it is heavy and difficult to hold still.

Fig. 1. Early record Falcate Orangetip documentation photo shot at 400mm, SS 320, f-13, ISO 320. Very rarely do I not use flash, but I did not want to risk startling the butterfly. With the 100-400mm zoom lens, I was able to be relatively far from the target.

Fig. 2. Zabulon Skipper shot at 400mm, SS 250, f16, ISO 400, with flash. I was shooting over a small pond in bright sunlight, and so used a quicker SS at 250 to reduce light. To keep the butterfly in context, I did not crop the photo.

Some people use a flash unit that is offset from the camera body so the light is not directly on the butterfly. They get great results, as well. Others use no flash. It's a matter of preference, but I find that flash brings out iridescence, detail, and color that one cannot detect in photos without flash, unless they are taken in full sunlight. However, my hands shake a lot so I need flash to help keep my photos sharp, even in sunlight, especially with the longer lens.

When you shoot, keep the lens perpendicular to the butterfly's body and wings. In other words, when a butterfly is open, both wingtips should be equal distances to the lens. This way the wingtips are more likely to be sharp in a dorsal shot, and the forewing apex region sharp in a ventral shot. Aim for the

forward part of the abdomen in both scenarios. Shooting at the tiny target of an eye can be frustrating but if you've got a higher f-stop (higher number for a greater depth of field in focus) then the eye should be in focus. Always ensure eyes are in focus. (Fig. 3.)

Fig. 3. Palmer's Metalmark shot at 100mm at SS 250, f-11, ISO 200, with flash. The wing tips are not an equal distance to the face of the lens, so sharpness drops off the butterfly's lefthand wings. An f-stop of 14 may have improved sharpness, but moreover the key probably was to have the lens perpendicular to the butterfly.

Use butterfly behaviors to your advantage

Butterflies are easiest to shoot when they are busy nectaring, basking, puddling, and mating. Early-to mid-morning is a great time for photography. Some are drenched in dew at that time of day and sparkle in first light. Another advantage is they usually are less active early. Approach the butterfly from behind. Shoot, walk slowly a few steps, then shoot again. For the most part, once a butterfly realizes you're not going to eat it, it usually settles.

Employ fun tricks

If you want to shoot the dorsal side of a butterfly and it just doesn't want to open, hold your hand over it to create shade. Often, it's too busy nectaring to get scared and fly off. The cooling effect of blocking the sun makes the butterfly think a cloud has come along. It may open to absorb more radiant heat to regulate its body temperature. (Fig. 4)

Some butterflies such as many sulphurs and hairstreaks never open and instead tilt their closed wings to the sun at certain angles to either warm or cool themselves. This is when keeping the lens perpendicular to the wing surfaces ensures sharp shots.

Position vegetation behind the butterfly or larva if it has a void in the background. (Fig. 5 & 6) Sometimes flash highlights the butterfly but makes the background appear dark, even in daylight. Vegetation added to the background becomes lit with the flash and makes the setting appear natural. On the other hand, a background of nothing but blue or clean sky is quite pleasing. (Fig. 7) Also, consider not using flash when a butterfly is strongly backlit. Sunlit-filtered wings are dramatic. (Fig. 8)

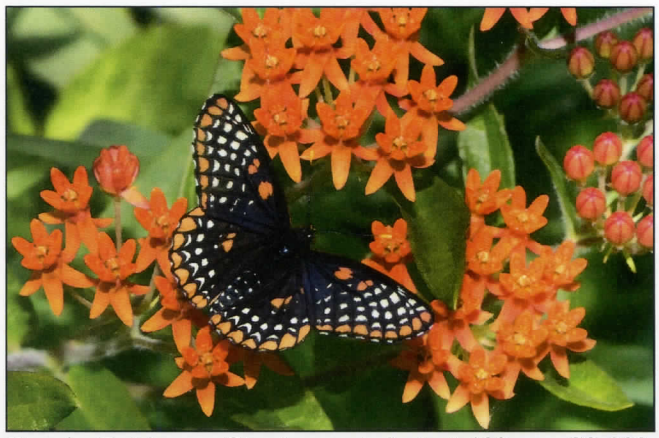

Fig. 4. Baltimore Checkerspot shot at 100mm, SS 200, f-13, ISO 400. This was one of those "stubborn" butterflies that, in bright sunlight and on a very hot day, did not want to open. I shot with one hand and held my other hand between the sun and the butterfly to cast shade, and it opened.

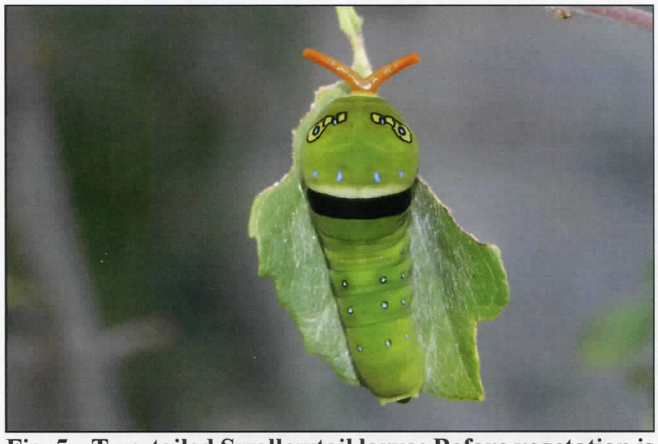

Fig. 5. Two-tailed Swallowtail larva: Before vegetation is placed behind the caterpillar.

Fig. 6. After vegetation is placed behind the larva. Clean backgrounds can make the subjects pop. Vegetation behind the subject, especially with flash that sometimes darkens the background, can lend a more natural quality, or cause a busy background. Experiment...shooter's preference.

Rotate the camera body to shoot the butterfly at an angle so the butterfly is not straight up and down. A straight up and down butterfly can appear stark and too "text booky." Having the butterfly slightly rotated arguably adds artistic interest. But the angle at which a butterfly is shot certainly is a matter of preference and the composition of the shot. (Fig. 9 & 10)

Fig. 7. An uncluttered blue sky produces a pleasing color contrast to the pink flowers and makes the butterfly pop. This Henry's Elfin was highly backlit, so flash did an effective job to highlight the wing colors.

Fig. 8. Check: Backlit wings of this Cloudless Sulphur appear diaphanous. Flash would have killed this effect. I lightened the background slightly so it doesn't look as though I shot this at midnight

Use editing software to enhance your photographs

I use Lightroom. The main functions I use are:

Crop—The more a butterfly shot is cropped, the more detail it shows. Wing scales pop. Antennal colors become apparent. Color gradients appear. Some photographers crop less often to lend a more "artistic" style that puts the butterfly in context with its surroundings, for instance, in a field of wildflowers. The extent of a crop depends on preference and the purpose of the shot. (Fig. 11) Surely a heavily cropped butterfly whose scales pop can be considered artistic.

Exposure—I try to overexpose more than underexpose when I shoot, and then bring down the exposure when I edit the photograph. Underexposing when photographing the animal causes more grain and color noise to appear when the exposure is brought up during post-shooting optimization. "Color noise" refers to the little green, red, and blue flecks that make up a photo at the pixel level. Zoom all the way in on your photo on a computer screen and you'll see. If the flecks are too apparent when zoomed out, the photo is lower quality.

Temperature—Do leaves or grass look too yellow or too blue? Adjust the temperature slider accordingly for a more natural-looking photo. Flash often makes photographs appear too blue, or cold. For that reason, I tend to add more yellow for warmth, but I try to practice restraint.

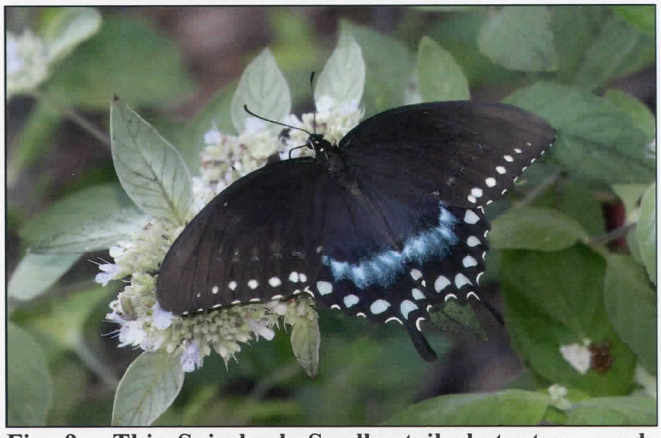

Fig. 9. This Spicebush Swallowtail shot at an angle appears softer. (I could have done a better job of getting the left wing in focus, however.) But the angle is the photographer's preference. On the other hand, upright butterflies can appear to "drip" from the vegetation.

Fig. 10. Spicebush Swallowtail: A straight up and down butterfly appears somewhat severe, especially when positioned in the center of the photo.

Sharpness—Use it especially on the wingtips of dorsal shots, and the apex region of forewings in ventral shots. Sharper facial and body scales perk up appearance, as well. But caution: Over-sharpening causes odd whitish flecks and lines to appear.

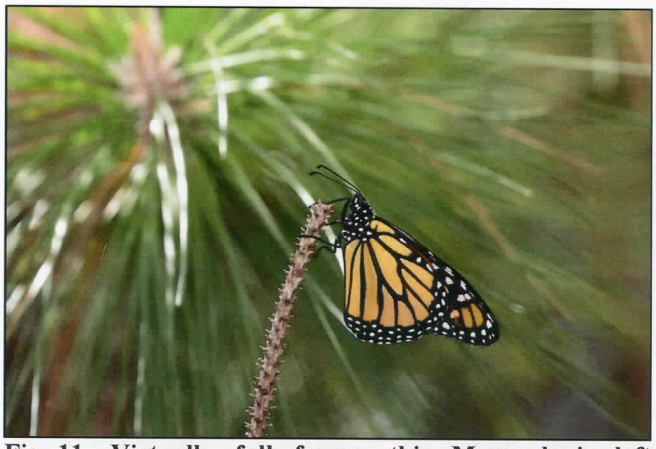

Fig. 11. Virtually full frame, this Monarch is left uncropped to take advantage of the "starburst" diagonal lines of light that direct the eye across and downward to the butterfly.

Fig. 12. This older, faded Empress Leilia needs help with the tone curve to freshen it up.

Tone curve—Freshens up worn, faded butterflies that have lost scales. But use sparingly because too much contrast causes a photo to appear too saturated and dark. (Fig. 12 & 13)

Vibrance—Use it to add a subtler punch than saturation.

Clarity—A little bit goes a long way, but helps shots appear more well-defined.

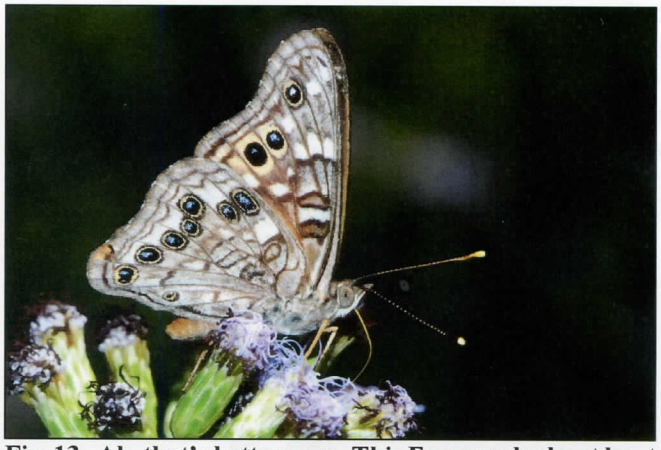

Fig. 13. Ah, that's better now. This Empress looks at least a little more perky with use of the tone curve in post-optimization. However, if you are documenting the butterfly to show its true condition at a certain point in time during its flight, then omit the tone curve and edit lightly.

Noise—I often highlight the background of the butterfly at 100 on the noise scale in Lightroom to reduce grain and color noise.

Cloning—Flash often bounces off eyes in any wildlife photography and leaves an alien appearance or white spots. I use either dark or light clones, whichever the situation calls for, to make the eyes look natural.

After you have edited a photo, send it to a friend for an opinion. Most of us tend to overdo contrast, sharpening, and warmth. The whole idea is to make the butterfly look as natural as it can be, while employing flash and other shooting and post-optimization techniques to highlight its beauty.

While I am in no way a professional photographer, I have learned that experimentation improves my photography. Get out there and see what works best for you. I'll never stop trying and I hope you keep it up, too!

Note: Kathy shoots with a Canon 7D Mark II and either a 100mm macro or 100-400 zoom lens.

(Kathy Malone: E-Mail: zlongwing@aol.com)

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OHIO DEPARTMENT OF TRANSPORTATION POLLINATOR EDUCATIONAL GARDEN INSTALLED AT I-75 REST AREA

BY

CANDY SARIKONDA

It's official! The state of Ohio's first combination of a travel center and educational pollinator garden has been opened, located at the rest area on south bound I-75 near Bowling Green. This newly-renovated rest area features a formal pollinator garden, which will serve as the prototype for future Ohio Department of Transportation (ODOT) planting projects at six other rest areas throughout the state. As a founding partner of the Ohio Pollinator Habitat initiative, ODOT is one of the leading departments of transportation in the nation working to restore public land to native prairie. Educating the public about this restoration effort is critical to ODOT's success, and the rest area renovation presents an opportunity to reach out to members of the public and educate them about the importance of pollinators and the need for pollinator habitat creation.

The rest area was temporarily closed in 2015 to facilitate the widening of I-75, and ODOT took the opportunity to renovate the plumbing, roof, interior finishings and mechanical systems at the travel center. The Ohio Tourism Board approached ODOT with the idea to also install an educational pollinator garden at the site, designed to showcase native Ohio wildflowers that support pollinators. Visitors would have the opportunity to view a pollinator garden, and educational signage and materials would be provided to inform visitors about the plight of Ohio's pollinators.

ODOT's District 2 began the planning and installation of the pollinator garden. Kim Roessner, Transportation Administrator for ODOT District 2 and head of the ODOT District 2 Pollinator Habitat team, worked to gather and coordinate a team of volunteers to design, install and maintain the 0.35 acre garden site. Dan Parratt of Bowling Green City Parks designed the educational garden, selecting plants that serve as nectar and host plants for bees, butterflies and hummingbirds found in the area. Volunteers from ODOT's Wood County garage, Wild Ones, Monarch Watch, Ohio Certified Volunteer Naturalists and Wood County Parks planted over 1500 native plants at the site. Plants were donated by U.S. Fish and Wildlife Service and the Toledo Zoo, with technical expertise provided by ODNR and Monarch Watch.

Fig. 1. Travel Center Planting Volunteers: Kim Roessner, Dan Parratt, Ellen Bernal, Dean Babcock, Candy Sarikonda, and Chris Barry. (Photo by Vivian Vasquez, Ohio Department of Transportation, District 02.)

Each plant species was installed en masse, creating a formal garden appearance which would please both pollinators and humans alike. Joel Hunt, Program Administrator for ODOT's Highway Beautification and Pollinator Habitat Program, supervised the creation of educational signage for the site. The signage provides a map of the garden design, along with brief information about each plant species featured in the design.

Fig. 2. Joel Hunt of ODOT and Corrine Jansing of Cardno Nursery. (Photo by Candy Sarikonda.)

Hunt explains, "With agriculture being Ohio's largest industry, worth $105 billion a year, pollinator habitats not only secure our food supply but they also secure our state's economy." The garden project works to educate the public about ODOT efforts to create pollinator habitat, and visitors are encouraged to create pollinator gardens in their own backyards. Visitors can purchase seed packets from vending machines in the travel center. These seed packets contain many of the same plant species ODOT is currently using along Ohio roadsides. Additional plans for the renovated rest area not only include the educational garden, but will also include a roadside prairie planting adjacent to the garden. Plant species featured in the educational garden will be included in the prairie installation. This will enable visitors to learn about prairie plants and view them in a more naturalized setting as well as in the formal garden.

The ODOT Pollinator Habitat team is currently working to establish prairie plantings along roadsides in several Ohio counties, with the long-term goal of having a planting project in every county. These roadside prairie installations will help ODOT by reducing mowing and maintenance costs, while also assisting the state to provide pollinator habitat to support native ecosystems and the agricultural industry. It is estimated that Ohio has over 19,000 miles of roadsides. With so much public land available for pollinator habitat creation, ODOT is well-positioned to make a significant contribution to pollinator conservation throughout the state.

News video http://www.wtol.com/story/35789473/i-75-southbound-rest-area-reopens-just-in-time-for-holiday-weekend

Fig. 3. ODOT Planting Team. (Photo by Candy Sarikonda.)

Fig. 4. ODOT Planting Team. (Photo by Candy Sarikonda.)

[Reprinted with permission of the Wild Ones journal. (Published August/September 2017.)]

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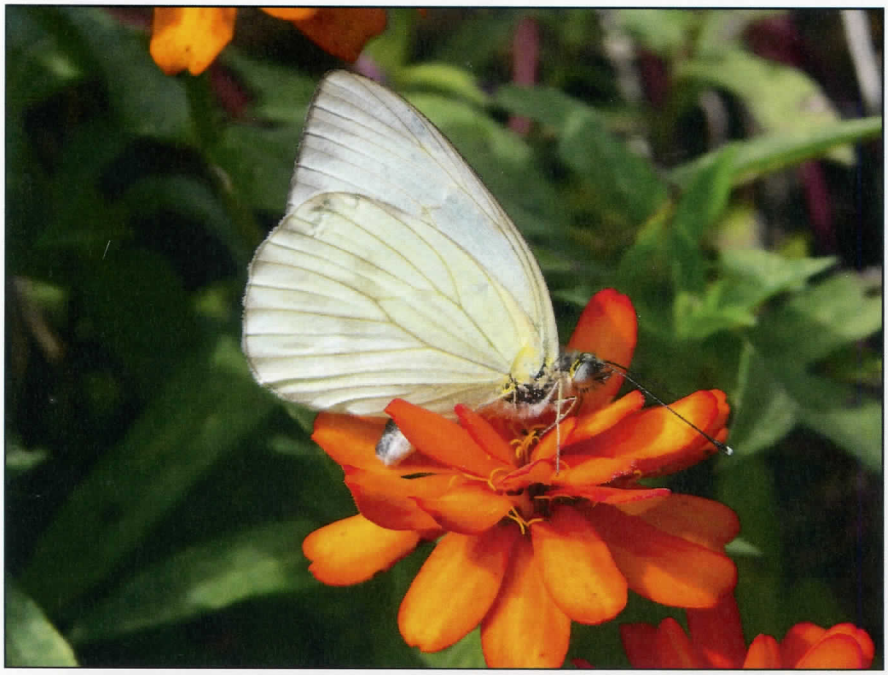
Damselfly (*Odonata*: Coenagrionidae). The red spheroids are the immature stages of a water mite (not identified). There are several groups of water mites that are parasitic/phoretic on aquatic insects, and are often seen on damselflies as pictured. (Photo by James Bowers, 2017, West Texas.) (Many thanks to Dr. John Oswald, Department of Entomology, Texas A&M University for the identification of the damselfly and mite information.)



Great Southern White (*Ascia monuste*) nectaring on dwarf zinnia ("Zahara"). Butterfly overwintered successfully and is again common in the south Louisiana area this summer (2017). PHOTO: Gary Noel Ross, July 21, 2017.

Another view (see NEWS, vol. 39:2) of the Central Spring Garden at the home of Gary N. Ross in Baton Rouge, LA. Flowering plants are: petunia ("Tidal Wave Silver"), larkspur (blue), zinnia (pink), *Mimulus* (yellow) and tall, yellow sunflowers in background. Petunias were exceptionally attractive to bumble bees in the day and sphinx moths at dusk; larkspur, *Mimulus*, sunflowers attracted bumble bees and honey bees; zinnias attracted butterflies. PHOTO: Gary Noel Ross, April 22, 2017.

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WINSTON CHURCHILL A PIONEER BUTTERFLY GARDENER

BY

F. MATTHEW BLAINE

Much has been written about Sir Winston Churchill and his many passions. He is often pictured with a Cuban Cigar in his mouth, he loved Pol Roger Champaign, beautiful women around him, gardens, and oil painting, just to name a few. He also collected butterflies.

When Churchill was a boy he began collecting butterflies while on holiday in West Sussex with a passion. Later, when he was a young man, he continued this passion to collect while he traveled to India and South Africa.

In 1922, he and his wife Clementine bought Chartwell which is located two miles south of Westerham, Kent, England. Chartwell was the house that they lived in for most of their lives (Figs. 1-2). Early in 1939 Churchill rediscovered his passion for butterflies. He consulted with L. Hume Newman who lived nearby and ran a butterfly farm at Westrum. Newman was a well-known Entomologist, writer, and lecturer. He had inherited the Butterfly Farm from his father, Leonard Woods Newman, and over the years, they both sold many butterflies to Churchill.

Fig. 1. Chartwell from the back.

Churchill asked Newman what butterflies he could grow and hatch at Chartwell to release into his garden. Newman suggested that he construct a butterfly house in which he could do this and have butterflies to release. Churchill liked the idea and converted an unused cool summerhouse for the purpose of breeding butterflies to release (Figs. 3-6). The cool summerhouse had originally been used as a game larder. In his butterfly house, he could watch the caged caterpillars feeding and eventually hatching out before he released them. He spent many hours doing exactly that in the years to come. It became a place of shelter for Churchill in the turbulent post war years in which he fell out of favor with much of the public.

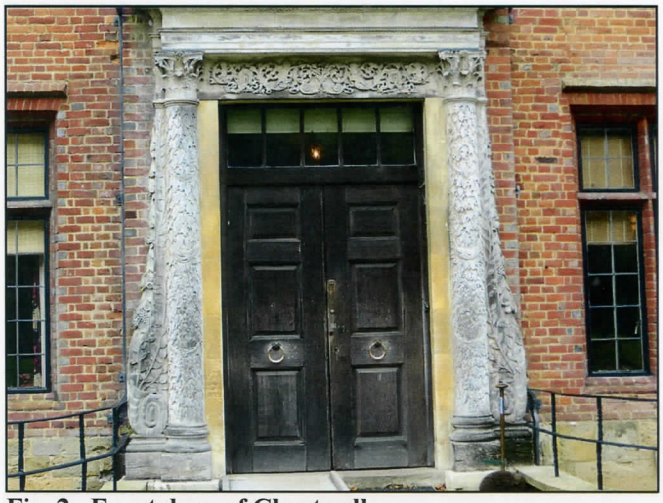

Fig. 2. Front door of Chartwell.

Winston Churchill was also a pioneer butterfly gardener. He grew herbaceous plants in his gardens specifically for the butterflies. Some of these plants, Buddleja, Valerian, Hebe, Lavender, and Sedum are still being planted at Chartwell for that purpose (Figs. 7-12).

In 1946 the Churchills realized that they could no longer afford Chartwell. Fortunately Lord Camrose organized a group of wealthy businessmen who purchased the estate (Fig. 13). They made an arrangement that for a nominal rent Winston and Clementine could live there for the rest of their lives. The agreement was that when they both had passed away Chartwell would be left to the National Trust. Winston died in 1965 and Clementine presented Chartwell to the National Trust immediately. Eventually the National Trust consulted the plans that L. Hume Newman had left after completing the Butterfly House in 1946 to make sure that it was the way that Winston Churchill had it.

Today the house and grounds are open to the public as is the Butterfly House. It is being still being used to hatch out and release butterflies but this time only local butterflies are permitted to be released. Buddleia and other plants are being grown for butterflies. In addition to flowers, wide strips of grass are left to fully mature in places around the grounds for butterflies to live and breed. Painted Ladies and Peacock butterflies have been bred and released since the National Trust has been running it and plan to breed and release other native species such as Swallowtails, Small Tortoise Shells, and Speckled Woods (Figs. 14-19).

Fig. 3. Dona in Churchill's Butterfly House.

Fig. 4. Cages used to hatch out butterflies in the Butterfly House where Churchill would sit for hours watching them hatch out before he released them into the gardens.

Fig. 5. Welcome to the Butterfly House.

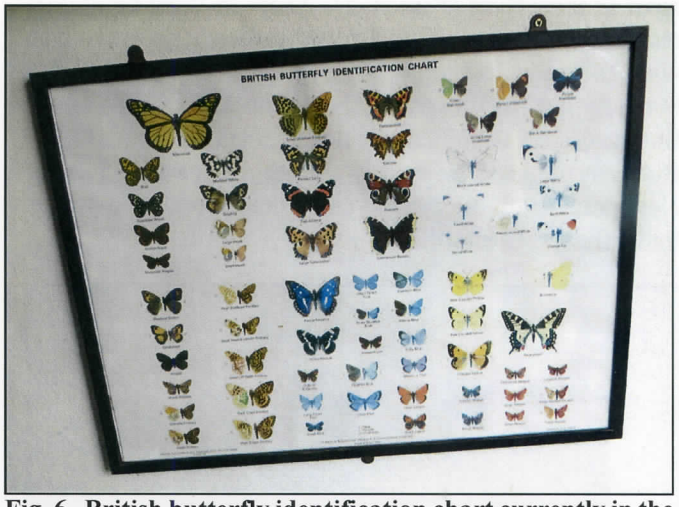

Fig. 6. British butterfly identification chart currently in the Butterfly House.

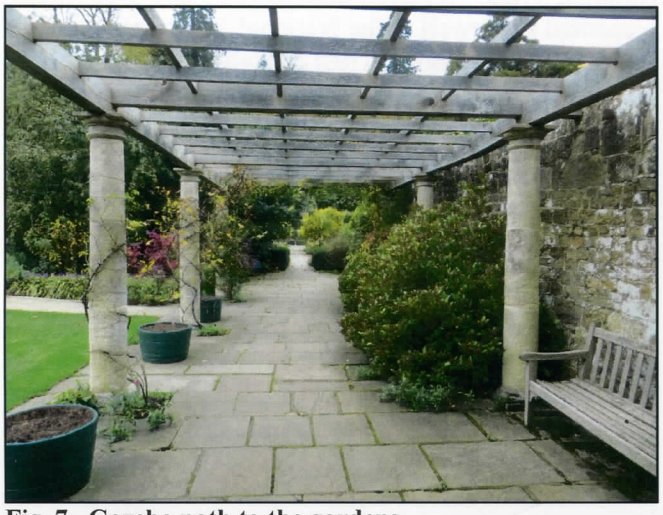

Fig. 7. Gazebo path to the gardens.

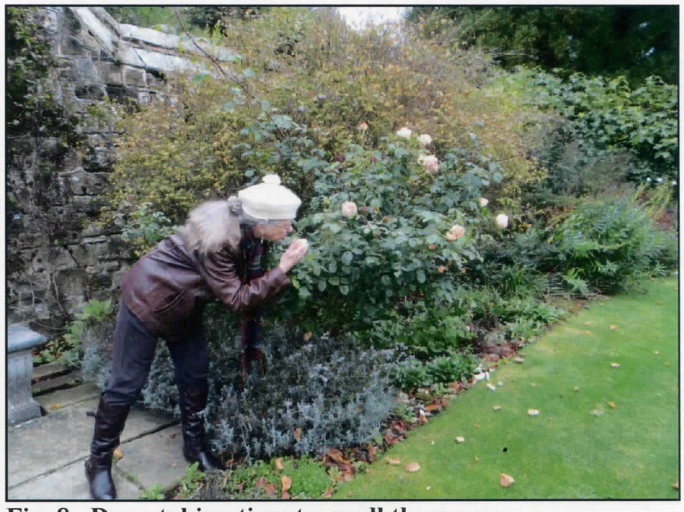

Fig. 8. Dona taking time to smell the roses.

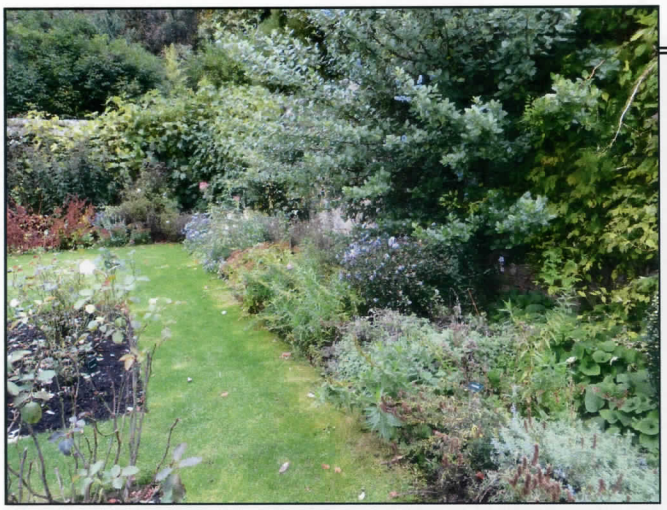

Fig. 9. Garden at Chartwell.

Fig. 10. Pond that Churchill built.

Matthew Oates, Nature Conservation Adviser at the British National Trust is quoted as saying. "Even war leaders love butterflies. Churchill's lifelong secret passion for butterflies began as a young boy when he went 'butterflying' in the fields near to his school in Sussex". [4]

Post Script: The estate on which Chartwell is situated has been built on for a long time. Back in the 16th century it was called 'Well Street' where it is said that Henry VIII stayed when he was courting Anne Boleyn at nearby Hever Castle. There is no record that Henry VIII ever collected butterflies.

References and Credits

1) http://www.telegraph.co.uk/news/earth/earthvideo/7952National-Trust-renovates-Churchills-butterfly-house.html
2) https://en.wikipedia.org/wiki/Chartwell
3) https://en.wikipedia.org/wiki/Pol_Roger
4) https://en.wikipedia.org/wiki/L._Hugh_Newman
5) http://www.telegraph.co.uk/news/earth/earthnews/7951720/National-Trust-recreates-Winston-Churchills-butterfly-house.html
6) Salmon, M., Marren, Harley THE AURELIAN LEGACY BRITISH BUTTERFLIES AND THEIR COLLECTORS The University of California Press, 2000.
7) Personal communication with docents and guides on my tour of Chartwell.
8) All photographs were taken by F. Matthew Blaine.

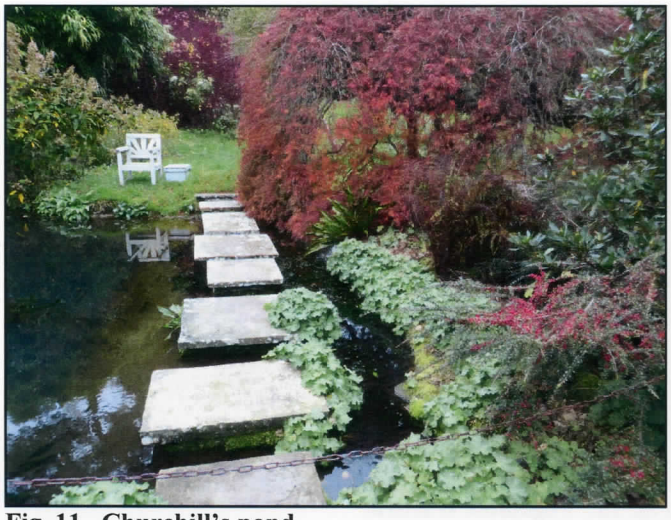

Fig. 11. Churchill's pond.

Fig. 12. Churchill's pond.

Fig. 13. Plaque commemorating the gift of Chartwell to the National Trust.

Fig. 14. Chartwell Garden.

Fig. 15. Garden and Landscape view.

Fig. 16. Chartwell Grounds.

Fig. 17. Walled Garden.

Fig. 18. Vegetable Garden.

Fig. 19. Garden view.

F. Matthew Blaine

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The Florida State Collection of Arthropods
Research Associate
The McGuire Center for Lepidoptera and Biodiversity at the Florida Museum of Natural History, University of Florida
Scholarship Chairman
Astronaut Trail Shell Club

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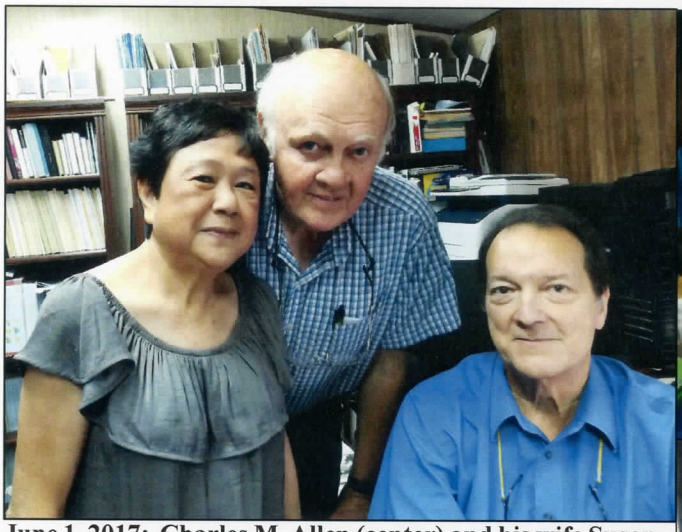
Balmorhea, Texas (May 2017)

VISITORS TO VERNON AND CHARLOTTE BROU AT THE ABITA ENTOMOLOGICAL STUDY SITE - 2017 - 1

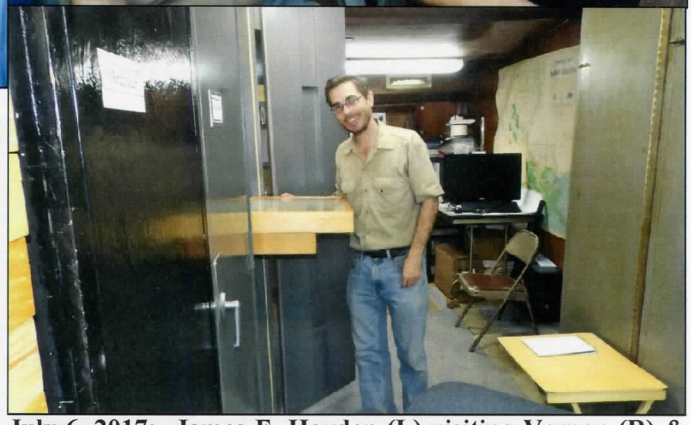
BY

VERNON ANTOINE BROU JR. AND CHARLOTTE D. BROU

January 27, 2017: Diane Lafferty of Hattiesburg, Mississippi, on a mission to have her moth photographs identified, and also spending several hours viewing Louisiana moths and butterflies in the collection.



June 1, 2017: Charles M. Allen (center) and his wife Susan Allen (L) visiting Vernon (R) & Charlotte Brou (behind camera). Charles is a celebrated botanist with numerous amzing publications accredited to him and various coauthors, some of which are, e.g., *Trees, Shrubs and Woody Vines of Louisiana, Grasses of Louisiana, Edible Plants of the Gulf South, Louisiana Wildflower Guide, Atlas of the Vascular Flora of Louisiana Volumes I, II, and III.* Charles and Susan operate Allen Acres Bed & Breakfast, Pitkin, Vernon Parish, Louisiana, on 26 acres usually operating nightly, eight mercury vapor lights with sheets.

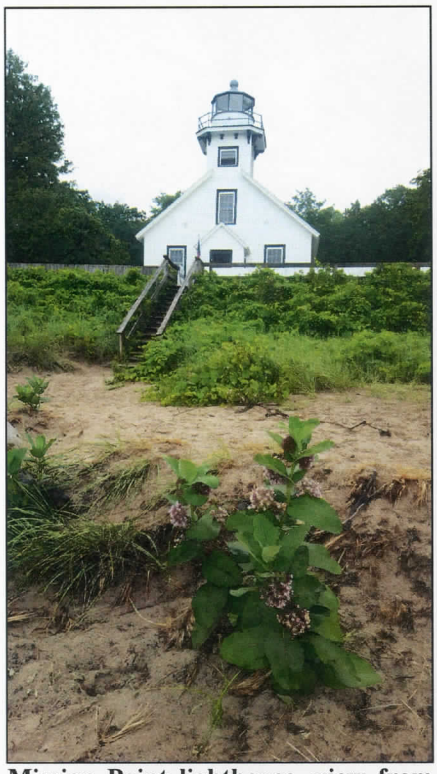


July 6, 2017: James E. Hayden (L) visiting Vernon (R) & Charlotte Brou (behind camera). Jame's research specialty is Pyralidae, and he can be found at Division of Plant Industry, Entomology Section, Florida Dept. of Agriculture and Consumer services, Gainesville, Florida.

(Vernon Antoine Brou Jr. and Charlotte D. Brou, 74320 Jack Loyd Road, Abita Springs, Louisiana 70420; E-Mail: vabrou@bellsouth.net)

CANDY SARIKONDA TELLS THE FOLLOWING STORY:

We (my husband Kasey and I, and our three children, Daven, Maya and Jayden) had planned to go shopping on a rainy day (July 26, 2017), and headed into Traverse City. Thankfully the rain passed, and we decided to visit Mission Point Lighthouse. This is one of my favorite monarch hotspots. And it did not disappoint.



Mission Point lighthouse, view from the beach.

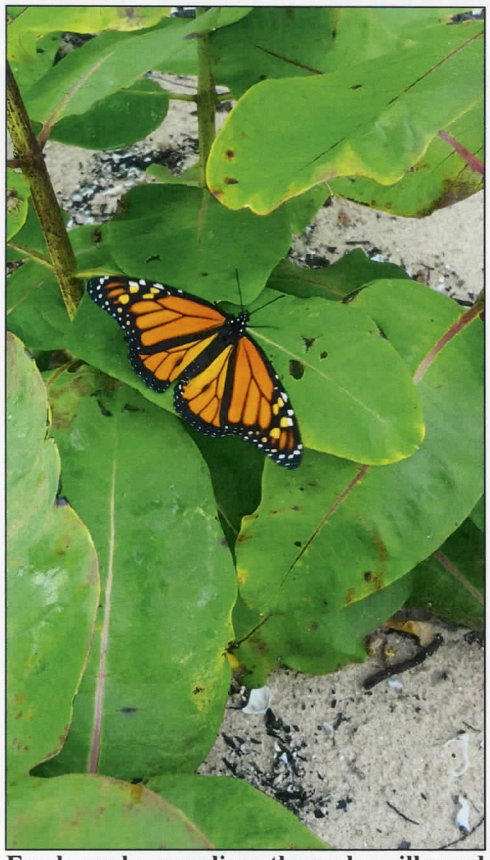
Shoreline in front of the lighthouse.

Common milkweed (*A. syriaca*) on the beach in front of the lighthouse.

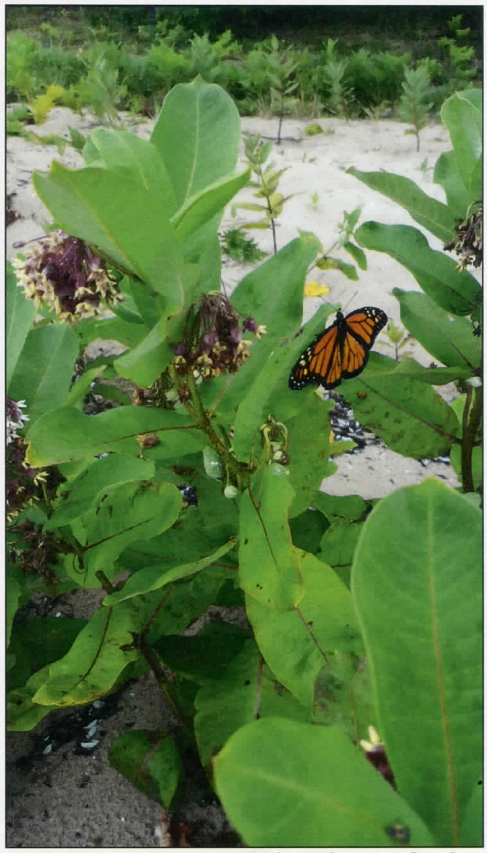
Common milkweed stretches along the lake Michigan shoreline on the lighthouse grounds.

Unfortunately, I did not bring my good camera. All I had was my cellphone. A light drizzle gave way, and I began searching the shore in front of the lighthouse where large stands of common milkweed can be found. As I scanned the milkweed, I startled a monarch on the grass in the sand. It was clearly freshly eclosed, its wings not quite dry enough to fly well. A patrolling male did several flybys, even dipping at the lake for a drink.

Fresh male monarch rests in a common milkweed patch on the shoreline.



Fresh male crawling through milkweed patch, its wings still not quite dry enough to fly well.



Male monarch spreads its wings to bask.

I was surprised to find two more freshly eclosed monarchs. I found 3 males and a female in total. Maya joined me and we both took photos. I hand-caught one fresh male, gently checking its wings. As soon as I pinched its wings, I felt they were indeed damp and soft, and I immediately pulled my hand away. It then flew to my knee and crawled up on me. I held out my hand and it crawled on, and I carried it to hide it safely in the milkweed. We noticed other people headed our way, and quickly left in order to hide the location of the monarchs. They needed time for their wings to harden, undisturbed.

What a beautiful experience.

The perfect anniversary gift!

Fresh female monarch.

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CANDY SARIKONDA TELLS THE FOLLOWING STORY:

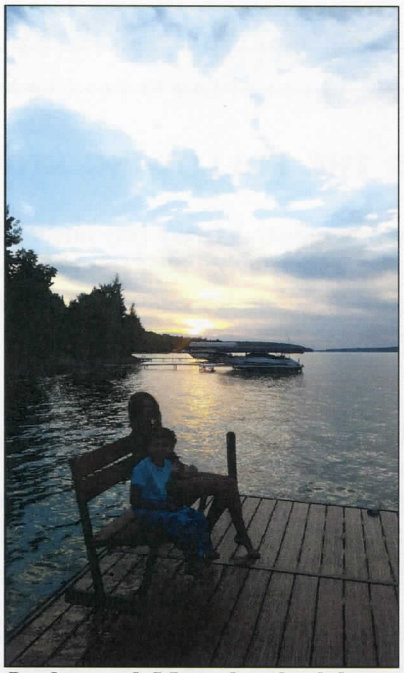
I was just up in northern Michigan chasing monarchs. We (my husband Kasey and I, and Daven, Maya and Jayden, our three children) rented a home on Lake Charlevoix near Boyne City for a week, so our family could enjoy lake living for a precious time — boating, swimming, lep hunting, star gazing and hunting for Petoskey stones. I can never get enough of watching sunsets on the lake.

On July 27, 2017, Jayden, Maya and I, watched the sunset together. After the colors were almost completely gone, we headed back up to the house. On the way up, I noticed how a solar light shone beautifully on a birch tree. Jayden was practicing taking photos of his own, so I told him to run over and take a picture of the tree. As he did, Maya squealed. A huge moth was nectaring on the daylilies! I immediately recognized it as a sphinx moth, and we rushed to try to get a picture. I just prayed my camera could handle the low light. Maya shined her cellphone flashlight on the lilies as I took photos — it worked!

After she and Jayden went in, I stayed out and continued to look for the moth. It returned briefly, and I held my cellphone flashlight in one hand and Canon Rebel in the other and snapped pics. I got a few good ones. I scanned the lilies for other moths using the flashlight, and tiny red eyes glowed back. Another smaller moth was hiding on a lily, and crawled on my hand briefly (this moth is unidentified).

Sphinx moth (*Manduca quinquemaculata*)(Summer 2017, northern Michigan) (Thanks to Ed Knudson for the identification.)

Side-view showing wing pattern.



Jayden and Maya by the lake at sunset.

Birch tree at sunset.

Unidentified moth on a daylily.

Unidentified moth on daylily (photo by Maya Sarikonda).

I went in to get Maya, and she came back out with me to see the stars. We walked out on the dock for a better view, and were greeted by 2 big American toads hunting insects on the dock. We fed them several mayflies, taking pictures as a team like we did with the moth. Maya got some cute video of them pigging out.

The last photo was taken by my daughter Maya Sarikonda with her cellphone.

It was fun each night to see the toad procession down the dock. As the last rays of the sun left from view and the sky darkened, we would leave the dock to go in the house. And as we walked down the dock, the toads were hopping onto the dock. It was funny watching them proceed toward the spider webs — there were 2 of them, and they would each take up a position on opposite sides of the dock, next to the spider webs. We fed them mayflies, and flipped garden rocks to find a worm to feed them. We had a ball.

American toad thinking about mayflies and worms (photo by Maya Sarikonda).

We headed back in, ready for bed.

After one last look at the stars...

(Candy Sarikonda, E-mail: Koundinya@buckeye-express.com)

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MEGALOPYGE OPERCULARIS (SMITH & ABBOT, 1797) (LEPIDOPTERA: MEGALOPYGIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

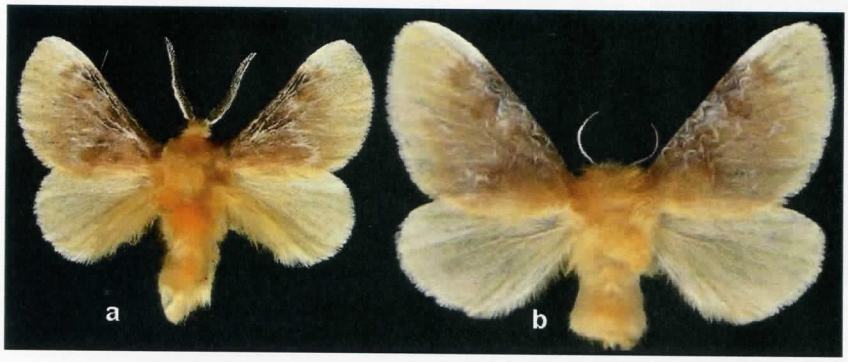

Fig. 1. ***Megalopyge opercularis*:** a. male, b. female.

The well known *"pus moth"* ***Megalopyge opercularis*** (Smith & Abbot) (Fig. 1) is usually and often encountered as the unusually shaped caterpillar with highly irritating and very painful stinging hairs. Within Louisiana, I have captured adults of three other species of urticating Megalopygidae, namely: ***Lagoa pyxidifera*** (J. E. Smith), ***Lagoa crispata*** (Packard), and ***Norape ovina*** (Sepp). These same four species were also reported for the state of Mississippi by Mather (1992).

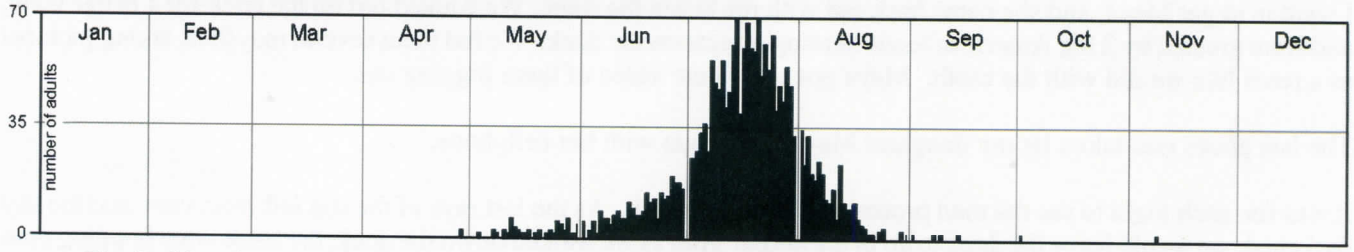

Fig. 2. ***Megalopyge opercularis*** collected at sec.24T6SR12E, 4.2 mi. NE Abita Springs, Louisiana. n = 2,110

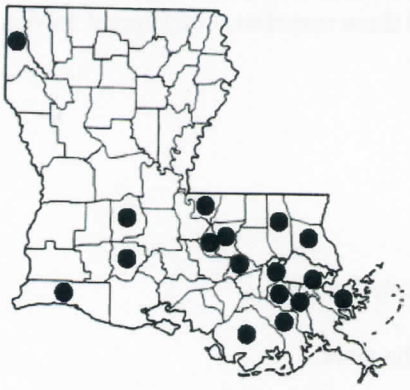

Fig. 3. Parish records for ***M. opercularis***.

One can find a plethora of publications concerning ***opercularis***, including numerous articles which are medically related to the stinging hairs. Symptoms after being stung can be very severe, and include radiating up a limb, and causing burning, swelling, nausea, headache, abdominal distress, rashes, blisters, and sometimes chest pain, numbness, or difficulty breathing (Eagleman, 2007).

In southern Louisiana, adults of ***opercularis*** were captured from the end of April into September, with stragglers into October and November. The adult population is single-brooded, and peaks in mid-July (Fig. 2).

Covell (1984) stated the range for ***opercularis*** in eastern north America to include Maryland to Florida, and west to Missouri and Texas; in all months, and common in the south. Numerous other authors have reported ***opercularis*** into Mexico, Central America, even South America.

Adults of ***opercularis*** no doubt occur in all 64 parishes of Louisiana. Though, the confirmed locality records in this study are illustrated in Fig. 3.

Literature Cited

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Eagleman, D.M., 2007. A Study of the Geographical Distribution and Symptoms of Envenomation by the Asp Caterpillar, Megalopyge opercularis. *Clinical Toxicology* 46(3): 201–5.

Mather, B., 1992. Megalopygidae and Limacodidae of Mississippi, *South. Lepid. News* 13: 46.

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PHENOTYPE VARIATIONS OF *ATTEVA AUREA* (FITCH, 1856) (LEPIDOPTERA, YPONOMEUTIDAE) CAPTURED IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

(Vernon A. Brou Jr., 74320 Jack Loyd Road, Abita Springs, Louisiana 70420 USA; E-Mail: vabrou@bellsouth.net)

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NEW US RECORD BUTTERFLIES FROM SOUTH TEXAS

BY

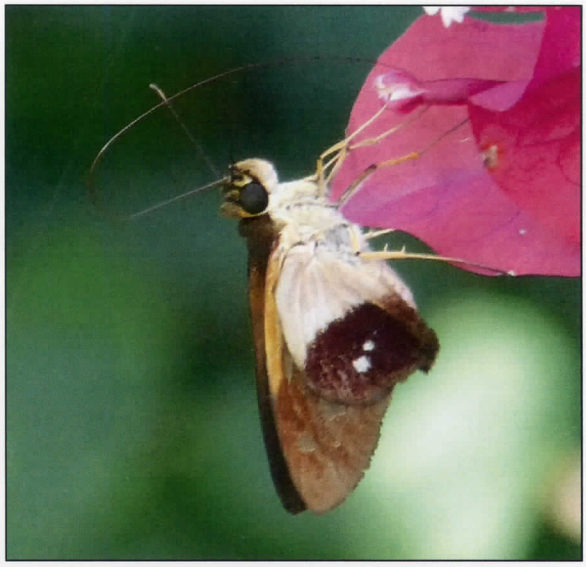
MIKE A. RICKARD

A year or so ago the comment was made on a butterfly list-serve along the lines of "We've all heard of the purported US records from Mission, Texas". We moved from Houston to Mission in June of 2008, and I have yet to hear of a purported US record. I have, however, seen, photographed, or been reliably informed of 18 US records in Texas' Lower Rio Grande Valley (LRGV) since we moved here. All but 3 of those have been within a 15-mile radius of Mission. This paper will present notes and photos of the 6 species found from 2016 to 2017 to-date. A list of the other 12 species can be found below.

Niconiades nikko (Hayward 1848): on April 16, 2016, John Rosford was shooting video of birds in the front garden of Bentsen-Rio Grande Valley SP when he encountered this butterfly. He got a few frames of video before it flew, and a thorough search the next day failed to relocate it. *N. nikko* is common in NE Mexico and ranges south to Paraguay. It could be mistaken in the field for a *Chiodes albofasciatus* (Hewitson) with missing tails.

Saliana esperi (Evans 1955): on November 25, 2016, while on a butterfly walk at Estero Llano Grande SP, Susan Keefer spotted this startling skipper visiting flowers. All of the walk members shared in the sighting and the butterfly was relocated and seen by others the next day as the word got out. *S. esperi* is a member of a complex but visually stunning skipper genus. It ranges from Mexico to southern Brazil.

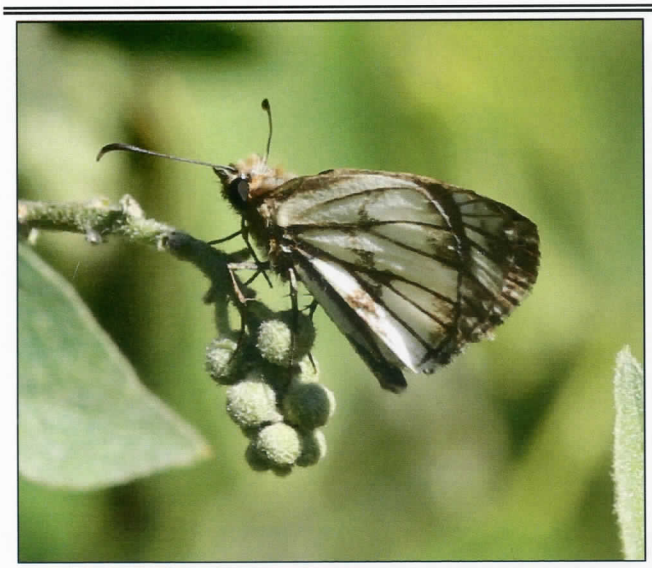
***Niconiades nikko*. John Rosford photo.**



***Saliana esperi*. Next day photo by Mike Rickard.**

Heliopetes alana (Reakirt 1867): on November 27, 2016, I spotted this skipper at the National Butterfly Center but narrowly missed getting a photo. Later that day, after my wife Ginny had joined the search, our friend Pat Riek unknowingly photographed the same butterfly. The next day I re-found it, the identity of Pat's photo came to light, and it stayed around for days, photographed by many. *H. alana* is common in Mexico, with records near the Texas border, and ranges to Argentina. There are 4 other species of White-Skippers common in the LRGV so perhaps *H. alana* occurs more often but is overlooked.

Gargina gnosia (Hewitson 1868): at the National Butterfly Center December 27, 2016, I took a number of photos of an extremely worn hairstreak which seemed beyond identification. However, studying photos in Kim Garwood's book, I was able to match details of the postmedian lines and cell bars of the fore and hind wings. The hairstreak flew while being photographed and was not relocated despite intense searching. (note that this is a common occurrence with almost every species in this article) *G. gnosia* ranges from Mexico to Argentina.



***Heliopetes alana*. Mike Rickard photo.**

***Gargina gnosia*. Mike Rickard photo.**

***Gargina gnosia*. Kim Garwood photo.**

<u>*Ziegleria hesperitis*</u> (Butler & H. Druce 1872): on February 9, 2017, Martin Reid and I were searching Fiddlewood blossoms for hairstreaks at the National Butterfly Center when we simultaneously spotted this insect and let out a "What tha?". We took numerous photos and then, unable as usual to see the upperside of a hairstreak, gently prodded it. As it flew it showed blue above. Unfortunately it was never seen again. *Z. hesperitis* ranges from Mexico to southern Brazil. There are several related hairstreaks occurring in the LRGV, some at times very common, and this species could easily be overlooked.

<u>*Rubroseratta mathewi*</u> (Hewitson 1874): February 23, 2017, found me again searching Fiddlewoods at the National Butterfly Center on a very windy day, when I encountered what I thought was a common *Strymon* species. I tried without success to get an in-focus shot, and finally it disappeared in a gust of wind. When I off-loaded my photos to the computer I was shocked to find it was a Groundstreak species. *R. mathewi* is found from Mexico to Panama. This individual has much darker and contrasting markings than photos on-line and in field guides, but that is a common occurrence with winter hairstreaks here.

***Ziegleria hesperitis*. Mike Rickard photo.**

***Rubroserrata mathewi*. Mike Rickard photo.**

US RECORDS FROM SOUTH TEXAS 2008 - 2015

Astraptes talus (Cramer)
Urbanus viterboana (Erhmann 1907)
Achalarus tehuacana (Draudt 1922)
Mnasilus allubita (Butler 1870)
Mimoides phaon (Boisduval 1836)
Strymon serapio (Godman & Salvin1887)
Panthiades bathildis (C. Felder & R. Felder 1865)
Kisutam syllis (Godman & Salvin 1887)
Michaelus ira (Hewitson 1867)
Melinaea lilis imitata (Bates 1864)
Dione juno huascuma (Reakirt 1866)
Manataria hercyna maculata (Hopffer 1874)

ACKNOWLEDGEMENTS

I received solicited input regarding determinations from Kim Garwood, Jeffrey Glassberg, Ed Knudson, and others. Photos by John Rosford and Kim Garwood are used with permission.

REFERENCES

www.butterfliesof america.com
Jeffrey Glassberg, A Swift Guide to the Butterflies of Mexico and Central America
Garwood and Lehman, Butterflies of Central America Vol. 2 Hairstreaks & Metalmarks

(Mike A. Rickard: folksinger4@yahoo.com)

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Fixer-Upper: West Texas near Dickens. New housing development, good view from either structure, can see in all directions. Has not been on market very long, good terms, expected to sell fast.

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ANNOUNCING THE MOTHS OF NORTH CAROLINA WEBSITE

BY

STEVE HALL, BO SULLIVAN, TOM HOWARD, & PARKER BACKSTROM

Websites that document the flora and fauna of specific states or regions are growing in popularity. In addition to the Butterflies of Alabama – announced in the summer issue of the SLEP Newsletter – other examples focused on the Lepidoptera of the Southeast include the long-established South Carolina Moth Checklist, Georgia Lepidoptera, and Butterflies of North Carolina websites. Examples outside our region include the Moths of the Pacific Northwest and the Maryland Biodiversity Project, and websites that cover the entire country include the Moth Photographers Group Website, BugGuide, BAMONA, and eButterfly. To this growing list, the members of the North Carolina Biodiversity Project would like to announce the public debut of the Moths of North Carolina Website. Along with the Butterflies of North Carolina, the Moth website is one of a series of biodiversity websites being developed by the North Carolina Biodiversity Project in partnership with the NC Division of Parks and Recreation, all of which can be reached through the NCBP portal website at http://nc-biodiversity.com/. The Moth website can also be reached or more directly at http://www.dpr.ncparks.gov/moths/index.php.

As in other websites, we have three main goals:

1) to compile a scientifically valid and useful database covering the entire range of the moth fauna in our state;

2) to support the public's growing interest and appreciation of moths as species of both beauty and ecological importance; and

3) to promote the conservation of moths, as well as the ecosystems of which they are a key part.

In order to make our data as accurate as possible, we rely largely on records obtained from field surveys, where species are identified by examination of collected specimens and based on the use of the key morphological features included in their formal descriptions. The bulk of our records – including 51,680 individual records and covering 1,300 species – come from surveys conducted by two of our authors, Steve Hall and/or Bo Sullivan. Additional specimen-based records come from the North Carolina Insect Survey, an effort begun in 1900 by Franklin Sherman and C.S. Brimley of the NC Agriculture Department and summarized in Brimley's (1938) Insects of North Carolina, and a series of supplements to that work by D.L. Wray (1967). Other important sources of specimen-based information come from the All Taxa Biological Survey of the Great Smoky Mountains (DLIA, 2006), providing over 10,000 records, and a study of the moth fauna of the Highlands area of North Carolina done by Adams et al. (2001), which produced over 8,500 records.

While we continue to place a great deal of importance on field surveys, the enormous expansion of opportunities to learn more about moths represented by digital photography cannot be ignored. One of the authors of our website, Parker Backstrom, provides an excellent example of the value of expanding our base of support to include moth photographers: simply by photographing the species he found at truck stops, grocery stores, and other well-lit places of business on his way to and from work, he discovered an amazing concentration of species associated with Honey Locust, including both species of *Sphingicampa* – the first state record for *S. bisecta* – as well as *Heteropacha rileyana*, *Spiloloma lunilinea*, *Catocala illecta*, *Catocala minuta*, and *Mellilla xanthometata.* While this assemblage might not be particularly noteworthy in the Ohio Valley, where Honey Locust is native, what makes Parker's findings so remarkable is that he found these species at the far eastern edge of the North Carolina Piedmont, in an area where Honey Locust is uncommon and believed to be introduced – far from anywhere that researchers would have chosen to look for them.

To test the feasibility of processing and validating large amounts of photo-based records, we did a test run by vetting records submitted by state park rangers and other staff of the NC Division of Parks and Recreation. NCDPR is, in fact, our main partner in developing biodiversity websites for North Carolina. Tom Howard, our webmaster, worked with Harry LeGrand to develop the first such website, the Butterflies of North Carolina, and along with our other websites created a database to specifically record natural history observations made in state parks. Vetting this dataset, thus, not only provided us a training opportunity but also helped improve the accuracy of the records maintained by NCDPR. From 2014 to 2017, we sorted through several thousand photographs from this one source alone. Over 1,700 were accepted as valid records at the species level and another 100 as valid at the genus level.

Based on the confidence we gained from this experience, we are now taking advantage of the interactive capabilities offered by the internet to accept online submissions of photographic records and other data from the public. Within just the first couple of

weeks following the public opening of our website, we received a record for *Hemaris gracilis*, a species that we have not recorded since 1971; a record for *Lytrosis permagnaria* from just the fourth site for this species recorded in the eastern Piedmont (the first two were discovered by Parker); and the first state record for *Samia cynthia*, an introduced species but still a noteworthy find. As in Parker's example, these findings more than justify the addition of far more eyes out there looking for and reporting moths than would ever be possible through formal field surveys by themselves.

In addition to compiling information on moths' distribution and abundance – which has allowed us to detect trends in population status in some cases going back to the early decades of the 20th Century – we have made collecting data on habitat associations and other environmental relationships a point of emphasis in our website. We use both the demographic and ecological data compiled through the website to determine the conservation status of moth species and their management needs as they specifically exist here in North Carolina. Making this information freely available via the website contributes to our third major goal of supporting conservation, which greatly depends on having a well-informed, highly appreciative, and deeply concerned public.

Our website is very much a work in progress. While we currently have distribution maps and adult flight charts showing at least one record for each of 2,210 species, we have only completed writing detailed accounts – including descriptions of habitat and conservation status – for just 430 species. With somewhere between 3,000 – 4,000 species of moths we estimate to occur in North Carolina, we obviously have a long way to go.

Even with so much work still to be done, we strongly feel that the website is already proving its worth, providing an ideal forum for the exchange of information between citizen-scientists and scientist-citizens. We look forward to seeing still more biodiversity websites developed on a state and regional basis.

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Fixer-Upper: Needs moderate, easy, renovations. Good price. Nice summer home, great view of West Texas Plains.

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YASUSHI NAWA "THE INSECT MAN" OF JAPAN

BY

F. MATTHEW BLAINE

Key Words

Nawa, Yasushi, Pressed Specimens of Butterflies and Moths, Nawa Insect Museum, The Insect Man, *Luehdorfia japonica*, K. Nagano

Abstract

Yasushi Nawa, 1857-1926, had a lasting impact on the study of insects in Japan. He made discoveries, created bilingual research publications, opened institutions, and inspired research that is still ongoing. His life work has had a long term impact on the overall study of Entomology.

Discussion

Yasushi Nawa was born in the Motosu District, Gifu Prefecture, Japan, on November 24, 1857. From a young age he demonstrated a keen interest in insects. This interest would follow him for the rest of his life. In 1878 he entered the local Agricultural Learning Center which is now the Gifu Agricultural High School. He graduated from it in 1882 and stayed on there for a while after graduation as an assistant. In 1886 Nawa entered the Tokyo Imperial University (now The University of Tokyo) where he earned a junior high school teaching license. He then returned to Gifu Prefecture where he taught elementary and junior high schools for the next ten years. Through all of these years he continued his interests in insects. As a result of this consuming interest, he was affectionately referred to as "The Insect Man".

On April 24th in 1883, after graduating from The Agricultural High School, and before going to The Imperial University, he discovered a new butterfly species in what is now Kanayamamachi in the city of Gero. He called the new butterfly the Gifu Butterfly. It was named *Luehdorfia japonica* by Leech in 1889 and the Syntypes are in The Natural History Museum, London (Figs. 1, 2)

In 1886, after teaching for ten years Nawa founded an insect research center where he studied beneficial insects, harmful insects, and termites. He was interested in learning how to protect the beneficial insects and how to exterminate the harmful ones. He named his new research center, the Nawa Insect Research Center. In 1904 the research center was moved to Gifu Park which is its present location. Twenty-three years after originally founding the research center, in 1919, it became the Nawa Insect Museum which was Japan's first insect Museum. It is still in operation today. The Insect Museum's current collection consists of over 300,000 specimens consisting of over 18,000 species of insects. The building was built in a modern western style which, at the time, was rare.

Fig. 1. *Luehdorfia japonica* drawer, the Natural History Museum, London (photo by the author).

Nawa "invented" a new method of printing and preserving Lepidoptera for which he was granted a patent (Fig. 3). He had the industrial department at the Nawa Entomological Research Center use his technique to prepare 90mm x 140mm cards with a drawn and exquisitely painted body matched with two wings, one the posterior and one the anterior. These cards were put into volumes much like a scrap book or photo album. The two volume set was titled THE PRESSED SPECIMENS OF BUTTERFLIES AND MOTHS Circa 1905 (Fig. 4). I had the opportunity to see and take some photographs of this extraordinary work at Academy of Natural Sciences of Drexel University, Philadelphia (Figs. 5-9).

One of Nawa's desires was to publish a serial work of Japanese insects. He stated this "cherished desire" in his Editors Preface to Volume 1, NAWA ICONES JAPONICORUM INSECTORUM VOL. I, LEPIDOPTERA SPHINGIDAE by K. NAGANO, Published by NAWA Entomological Laboratory GIFU, Japan, 1904. Volume 1 is 88 pages long including the

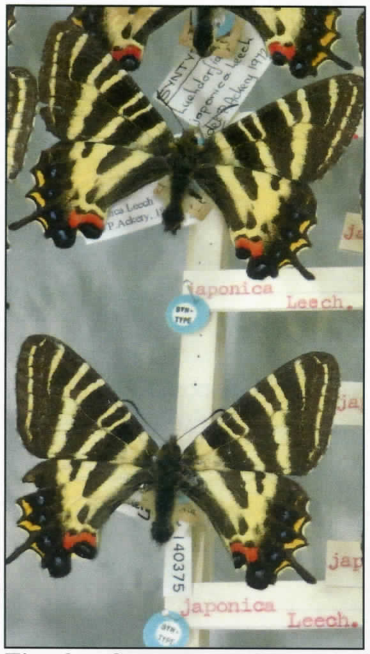
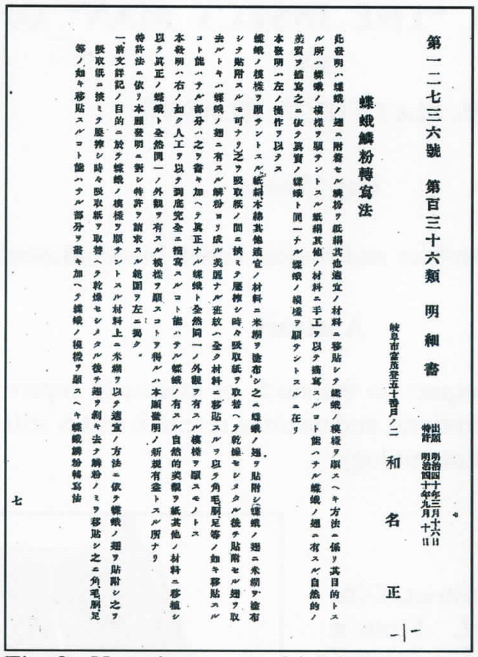


Fig. 2. Syntype closeup, The Natural History Museum, London (photo by the author).



第一二七三六號　第百三十六類　明細書

出願 明治四十年三月十六日
特許 明治四十年九月十一日

岐阜市富茂登五十番戸ノ二　和名　正

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蝶蛾鱗粉轉寫法

此發明ハ蝶蛾ノ翅ニ附着セル鱗粉ヲ紙絹其他適宜ノ材料ニ移貼シテ蝶蛾ノ模樣ヲ顯スヘキ方法ニ係リ其目的トスル所ハ蝶蛾ノ模樣ヲ顯サントスル紙絹其他ノ材料ニ手工ヲ以テ描寫スルコト能ハサル蝶蛾ノ翅ニ有スル自然的ノ美質ヲ描寫之ニ依テ眞實ノ蝶蛾ト同一ナル蝶蛾ノ模樣ヲ顯サントスルニ在リ

本發明ハ左ノ操作ヲ以テス

蝶蛾ノ模樣ヲ顯サントスル紙絹木綿其他適宜ノ材料ニ米糊ヲ塗布シ之ニ蝶蛾ノ翅ヲ貼附シ(蝶蛾ノ翅ニ米糊ヲ塗布シテ貼附スルモ可ナリ)之ヲ吸取紙ノ間ニ挾ミテ壓搾シ時々吸取紙ヲ取替ヘテ乾燥セシメタル後チ貼附セル翅ヲ取去ルトキハ蝶蛾ノ翅ニ有スル鱗粉ヨリ成ル美麗ナル斑紋ハ全ク材料ニ移貼スルヲ以テ角毛胴足等ノ如キ移貼スルコト能ハサル部分ハ之ヲ畫キ加ヘテ眞正ナル蝶蛾ト全然同一ノ外觀ヲ有スル模樣ヲ顯スモノトス

本發明ハ右ノ如ク人工ヲ以テ到底完全ニ描寫スルコト能ハサル蝶蛾ノ有スル自然的美觀ヲ紙其他ノ材料ニ移植シ以テ眞正ノ蝶蛾ト全然同一ノ外觀ヲ有スル模樣ヲ顯スコトヲ得ルハ本願發明ノ新規有益トスル所ナリ

特許法ニ依リ本願發明ニ對シ特許ヲ請求スル範圍ヲ左ニ掲ク

一、前文詳記ノ目的ニ於テ蝶蛾ノ模樣ヲ顯サントスル材料上ニ米糊ヲ以テ適宜ノ方法ニ依テ蝶蛾ノ翅ヲ貼附シ之ヲ吸取紙ニ挾ミテ壓搾シ時々吸取紙ヲ取替ヘテ乾燥セシメタル後チ翅ヲ剝キ去リ鱗粉ノミヲ移貼シ之ニ角毛胴足等ノ如キ移貼スルコト能ハサル部分ヲ畫キ加ヘテ蝶蛾ノ模樣ヲ顯スヘキ蝶蛾鱗粉轉寫法

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Fig. 3. Nawa's patent which I attempted to have translated but was unable to do so. The patent is written in an old style of Japanese that is extremely difficult to translate.

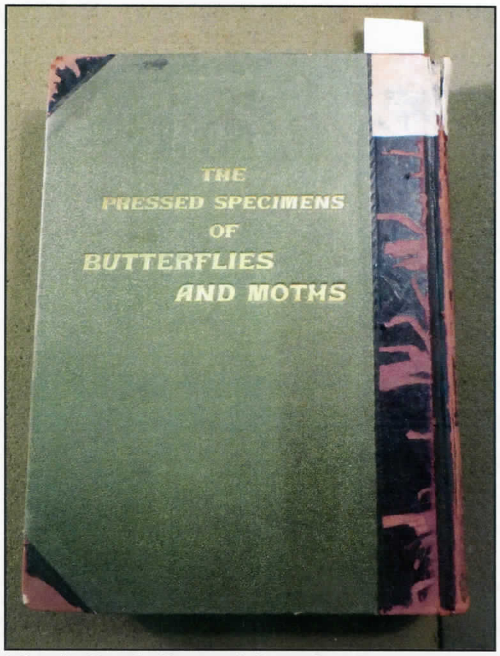

Fig. 4. Book Cover (photo by the author).

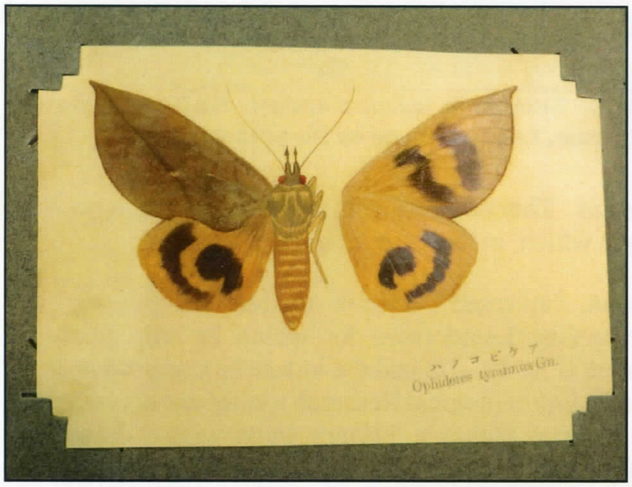

Fig. 5. *Ophideres tyarannus* (photo by the author).

Fig. 6. *Sagoptera elegans* (photo by the author).

covers. It is written in English and in Japanese with many color illustrations. Nawa chose another Junior High School/Middle School Teacher to be the author of this first edition. He was K. Nagano of whom Nawa in part said in his Editor's Preface:

> "*The author Mr. K. Nagano, is a teacher of natural history in the Tokyo Third Middle School. He is an enthusiastic scholar and has devoted many years to the study of Japanese moths. The present volume is a result of his patient and laborious studies.*" (a)

Mr. K. Nagano described his effort in his following quote from his Author's Preface of the same issue:

> *"In this volume, I have endeavored to explain in simple Japanese and English languages, all the specimens of Japanese Sphingidae, which are contained in the collection of the Nawa Entomological Laboratory. In order to avoid complicated descriptions, I have introduced a large number of original colored plates. I regret, however, that although I have done my best to secure perfection, yet owing to the fact that the art of lithography in this country is still in an undeveloped stage, these plates are far from being satisfactory."*(b)

Fig. 7. Two butterflies on one page (photo by the author).

Fig. 8. *Junonia orithya* (photo by the author).

There was a long standing tradition in Japan that when someone who had made major contributions and lived to the old age of 60 years, would have a collection of essays written, put together, and published in the person's honor. This tradition was carried out for Nawa by his friends and colleagues. It's title is, A Collection Of Essays for Mr. Yasushi Nawa, Written in Commemoration of His 60th Birthday, on October 8, 1917. It was published in Gifu, Japan, October 1917 and was edited by Kikujiro Nagano. This publication contained one of the only photographs still existing of Nawa. It is a black and white photograph depicting him at the age of 60. His image is surrounded by an inner ring of beads and an outer ring of line drawings consisting of various insects (Fig. 10).

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https://en.wikipedia.org/wiki/Nawa_Insect_Museum

Photo of Nawa Insect Museum By Hide-sp - Hide-sp's file, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=2912357

Photo of Nawa Insect Museum now. Photo of By Hide-sp - Hide-sp's file, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=2912354

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Geoff Martin, Collections Manager (Lepidoptera), The Natural History Museum, London, for letting me into the collection and allowing me to take photographs.

Alan Engle for providing a copy of Nawa's Patent

Yasunori Kishida and Akito Y. Kawahara for attempting to translate Nawa's patent

Paul Callomon for information on Nawa's pressed butterfly & moth albums and other information.

"*The Pressed Specimens of Butterflies and Moths*", Nawa Entomological Laboratory, Gifu, Japan; Academy of Natural Sciences of Drexel University, Philadelphia

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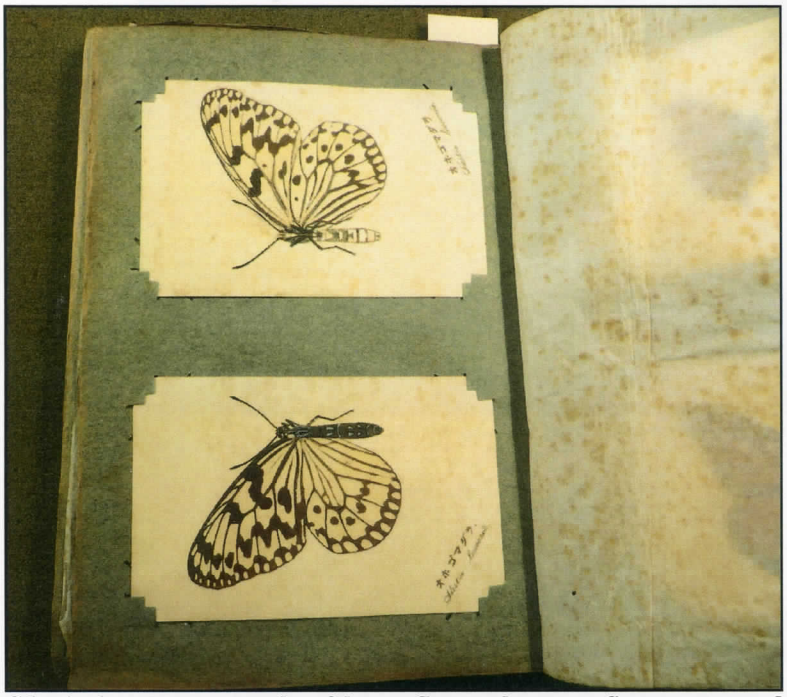

***Sdestia leuconoe* example of butterfly too large to fit on one card (photo by the author).**

Fig. 10. Photograph of Nawa at 60 from the book A Collection Of Essays for Mr. Yasushi Nawa, Written in Commemoration of His 60th Birthday, on October 9, 1917, Gifu, Japan, October 1917 (edited by Kikujiro Nagano).

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PROLIMACODES BADIA (HÜBNER, 1822) (LEPIDOPTERA: LIMACODIDAE IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

Fig. 1. ***Prolimacodes badia*** phenotypes variations: males a, c, females b, d.

Fig. 2. Late instar larvae of ***P. badia***

Fig. 3. Save larvae (in Fig. 2), prior to pupation.

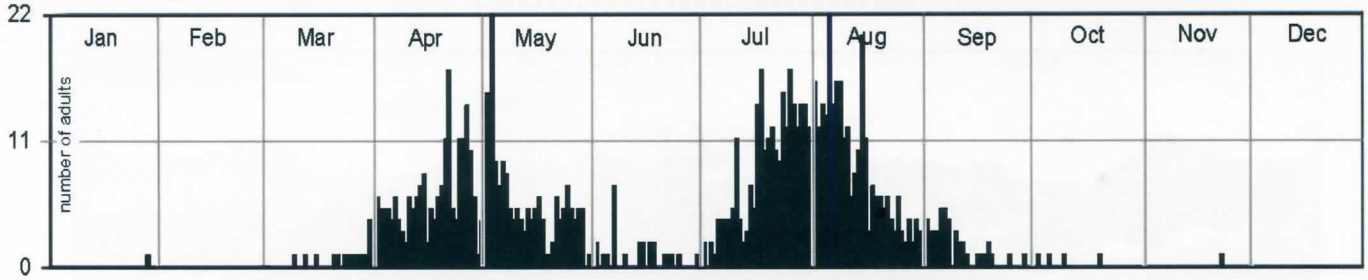

Fig. 4. Adult ***P. badia*** captured at the ***Abita entomological study site**. n = 985

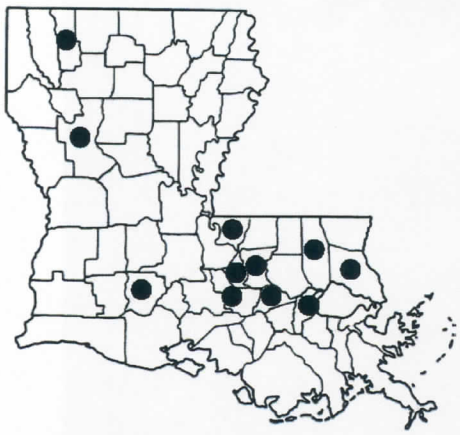

Fig. 5. Parish records for ***P. badia***.

The common moth species ***Prolimacodes badia*** (Hübner)(Figs. 1, 2, 3) is one of at least 15 species of the family Limacodidae occurring in the state of Louisiana. Geographically, ***badia*** occurs from extreme southern Ontario, south to most of the states in the eastern half of the United States. Wagner (2005) states this species has one brood in the north, evidently two in the south, and unlike most of the species of this family, ***badia*** does not have urticating stinging poisonous hairs.

The dates of capture in St. Tammany Parish are illustrated in the composite multi-year phenogram (Fig. 4). Within Louisiana it appears there are indeed two annual broods of ***badia***, the first peaking around the last week of April, and the second peaking (end of July-early August). Foodplants include: blueberry, cherry, oak, willow, maple, poplar, and many others.

There are several other urticating caterpillars occurring in Louisiana, in addition to most of the other 14 species of Limacodidae, e.g. ***Automeris io lilith*** (Strecker), ***Automeris louisiana*** Ferguson and Brou, ***Hemileuca maia*** (Drury), and ***Megalopyge opercularis*** (Smith & Abbot). And I have

previously addressed these well known species with respect to Louisiana (Brou, 2002, 2003, 2005, 2007, 2017).

Covell (1984) indicated (adults) of ***badia*** occur May through September in the eastern half of North America. Heppner (1995) stated there are 25 species of Limacodidae in the state of Florida including ***badia***, without listing all of them. Profant, et al. (2010) in their excellent publication provided a list of 23 different larval food plants for ***badia***. These same authors provided a phenogram involving 54 (adults) of ***badia*** illustrating a single brood peaking (end of June-beginning of July) in Ohio.

The 11 parishes recorded for ***P. badia*** in this study are illustrated in Fig. 5.

*Abita entomological study site: sec.24, T6S, Range 12 East, 4.2 miles northeast of Abita Springs, St. Tammany Parish, Louisiana.

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(Vernon Antoine Brou Jr., 74320 Jack Loyd Road, Abita Springs, Louisiana 70420 USA; E-mail: vabrou@bellsouth.net)

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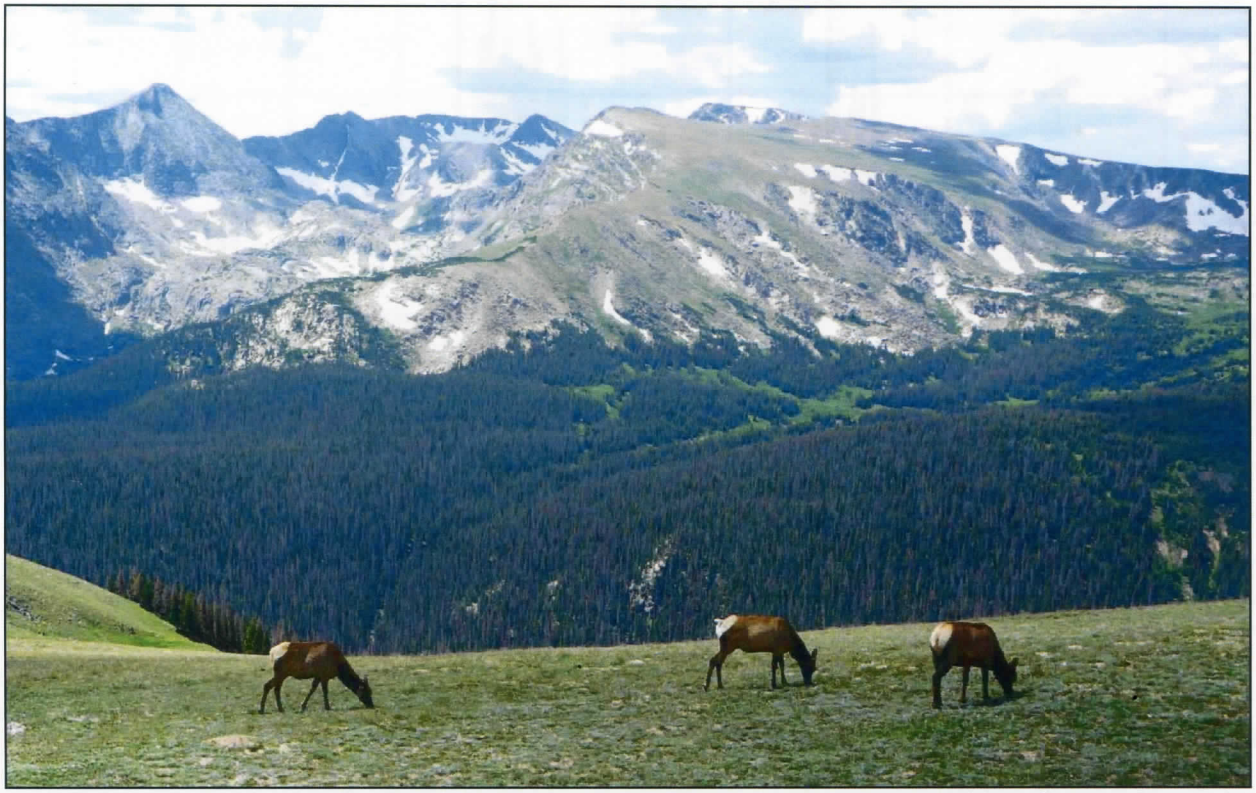


Rocky Mountain National Park: View of Rocky Mountain Elk grazing near Alpine Visitor Center, along Trial Ridge Road (Credit Michael P. Blanton, PhD, July 31, 2017).

BUTTERFLY COUNT IN SAN FRANCISCO - 2017

(POSTED IN THE RICHMOND REVIEW ON JULY 14, 2017)

BY

PAUL KOZAK

[The Editor of the Southern Lepidopterists' News thank Mr. Paul Kozakiewicz, Publisher, of the San Francisco Richmond Review and Mr. Paul Kozak, author, for allowing the re-printing of this article - J. Barry Lombardini]

This year's sunny butterfly count day – June 18th, 2017 – made up for last year's dismal fog. Eighteen spotters in eight groups, led by butterfly maven Liam O'Brien, **counted a record number of butterflies: 1435 or 1440**, (we're still trying to verify which, but realistically it doesn't much matter). The count hasn't exceeded a thousand before.

Illustration of a Mourning Cloak butterfly

They also **counted 29 species**, up from the more usual 24-26. One of them, the Mourning Cloak, hasn't been counted before (at least since 2010). In all, 34 species have been recorded in San Francisco in the 7 years we've been following the data, but some don't show up every year.

	2010	2011	2012	2013	2014	'15	2016	2017
Butterflies seen	775	990	924	751	777		499	1435
Number of species	24	26	26	24	24		24	29
TOP THREE SPECIES COUNTED, BY YEAR								
First	Cabbage White - 314	Cabbage White - 378	Cabbage White - 220	Pipevine Swallowtail - 155	Cabbage White - 318		Common Buckeye - 102	Cabbage White - 487
Second	Umber Skipper -80	Anise Swallowtail - 110	California Common Ringlet & Sandhill Skipper - 92	Cabbage White - 120	Common Checkered Skipper - 106		Cabbage White - 99	Spring Azure/ Echo Blue - 194
Third	Anise Swallowtail - 58	Spring Azure/ Echo Blue - 57	Common Buckeye - 83	Spring Azure/ Echo Blue - 82	Common Buckeye - 90		Acmon Blue - 39	Anise Swallowtail - 125
Number of people spotting	34	34	16	16	17		25	18
Number of parties	14	10	9	9	7		9	8
Date	7-Jun	3-Jul	24-Jul	8-Jun	15-Jun		4-Jun	18-Jun
Weather	Foggy	Sunny	Fog->sun	Sun->fog	Fog->sun		Fog	Sunny

WHAT'S THE BUTTERFLY COUNT?

Each year, the North American Butterfly Association (NABA) sponsors the July 4th series of butterfly counts at locations all across the US. Volunteers go out up to one month before or after July 4th to count butterflies in specific locations.

We've followed the San Francisco butterfly count since 2010, with a gap in 2015 when we found no published data. (If data are made available, we'd be happy to publish it.) The results for earlier years are here: 2010, 2011, 2012, 2013, 2014, and 2016.

The San Francisco count is tricky; San Francisco gets fog in summer and butterflies tend to lie low on foggy days. (The picture of Sutro Forest below shows typical summer weather in San Francisco.)

The 2016 count, on June 4th, had bad luck with the weather, with a persistent fog and only sporadic sunshine. The spotters were able to find 24 species, the same as in most years, but only 499 individual butterflies. In 2017, by contrast, spotters found 1435-1440 butterflies of 29 species.

Counts in recent years include Angel Island and Yerba Buena Island, both of which have slightly different species from San Francisco city. In 2016, three of the species were counted only on the islands: The Pipevine Swallowtail on Angel Island and Yerba Buena (though other, non-count reports say it has been seen on Mount Sutro!); the Common Wood Nymph and the Rural Skipper on Angel Island. In 2017, the islands yielded California Sisters, Rural Skippers, and the Common Wood Nymph. (The Pipevine Swallowtail is also on the "spotted" list, but this year's notes don't mention it as being confined to the islands.)

HIGHLIGHTS AND THE TOP TEN BUTTERFLIES

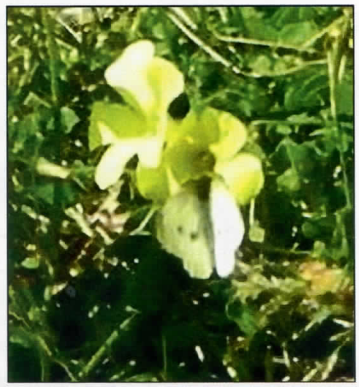
Two butterfly species accounted for half the sightings in 2017: The Cabbage White, and the Echo Blue. The top ten butterfly species accounted for 86% of the count numbers.

The **Cabbage White butterfly** topped the charts this year, as it has in five of the seven years for which we have data. There was a record sighting of 487 individuals, far exceeding the 378 in 2011. This butterfly especially likes brassicas, in the cabbage and mustard family like San Francisco's wild mustard.

The second position this year went to the **Echo Blue**, a small blue butterfly. It's shown up in third place twice before.

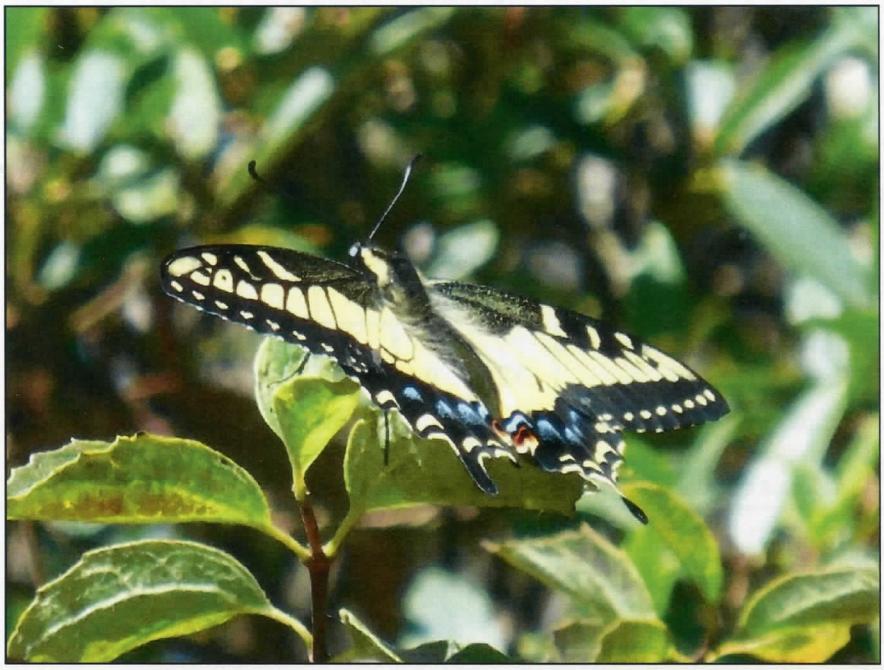
Online information about this butterfly is sparse; its larval food plant seems to be ceanothus and a variety of others including, possibly, blackberry. If this proves accurate, it may explain why the species is seen so often in San Francisco – we have a lot of Himalayan Blackberry, which is an excellent habitat plant for a lot of wildlife of all sizes and species.

Source: Katja Schultz, Wikimedia Creative Commons



Cabbage White sitting on Oxalis

The third place went to the spectacular **Anise Swallowtail**, one of our prettiest butterflies. It breeds on fennel, a non-native plant introduced for its culinary and medicinal properties, but now hunted as a weed by San Francisco's Natural Resources Department. Fortunately, fennel is still abundant in the city, and so are these butterflies.



Other highlights:

- For **Anise Swallowtails**, this count bettered the National High count of 2011!
- The Monarch butterfly showed up again, which is pleasantly unusual since these butterflies more usually overwinter at the coast and fly inland in summer. Maybe they're adapting to year-round residence? Its main locations seem to be The Presidio and Treasure Island/Yerba Buena.
- The **Mylitta's Crescent**, which feeds mainly on thistles, made a better showing this year.
- The **Western Pygmy Blue**, common elsewhere but rare in San Francisco showed up this year. It's the smallest butterfly in the US, only a half-inch across and is copper-colored with only tiny bits of blue. It's only been recorded once before, in 2012.

- The **Mourning Cloak** butterfly – a handsome dark-brown butterfly with a yellow edge to its wings is rare locally though abundant elsewhere. It showed up in the count for the first time. This butterfly lives almost a year, and is a strong migrator so it shows up all round the world. Though the butterfly is gorgeous (its British name is "Camberwell Beauty") its caterpillar – the Spiny Elm Caterpillar – chomps through tree leaves, sometimes destroying the trees. I t prefers hardwood forests and cold winters, which may explain why we don't see much of them in the city.

BUTTERFLY DATA FOR DATA NERDS

If, like us, you like to see the data in detail, here is our spreadsheet compiling the butterfly count numbers from 2010-2017 (except for 2015, the missing year). We've arranged them in alphabetical order for convenience.

	SAN FRANCISCO BUTTERFLY COUNT DATA - 2010-2017							
		2010	2011	2012	2013	2014	2016	2017
1	**Acmon Blue** (*P. acmon*)	41	6	23	7	17	39	50
2	**American Painted Lady** (*V. virginiensis*)	10	11	15	2	1	3	7
3	**Anise Swallowtail** (*P. zelicaon*)	58	110	64	32	68	26	125
4	**Cabbage White** (*P. rapae*)	314	378	220	120	122	99	487
5	**California' Common Ringlet** (*C. tullia californica*)	45	45	92	8	5	4	30
6	**California Sister** (*Adelpha ~~bredowii~~ californica*)	0	5	13	18	8	0	4
7	**California Tortoiseshell** (*N. californica*)	2	0	0	0	0	0	0
8	**Chalcedon' Variable Checkerspot** (*E. chalcedona*)	12	0	0	0	0	0	0
9	**Common Buckeye** (*Junonia coenia*)	10	6	83	66	90	102	56
10	**Common Checkered Skipper** (*P. communis*)	10	44	44	29	106	26	48
11	**Common Wood Nymph** (*C. Pegala*)	0	55	4	21	56	29	74
12	**Field Crescent** (*P. campestris*)	32	0	44	13	8	2	3
13	**Fiery Skipper** (*Hylephilia phyleus*)	1	13	64	7	31	4	11
14	**Gray Hairstreak** (*S. melinus*)	1	2	7	4	19	7	17
15	**Gulf Fritillary**(*A. vanillae*)	5	7	7	8	3	3	21
16	**Large Marble** (*E. ausonides*)	1	0	0	0	0	0	0
17	**Monarch** (*Danaus plexippus*)	0	3	0	0	0	3	3
18	**Mournful Duskywing** (*E. Tristis*)	0	12	0	1	0	0	2
19	**Mourning Cloak** (Nymphalis antiopa)	0	0	0	0	0	0	2

20	**Mylitta's Crescent** (*Phyciodes mylitta*)	2	5	1	10	25	9	41
21	**Orange Sulphur** (*C. eurytheme*)	12	5	1	0	0	0	5
22	**Painted Lady** (*V. cardui*)	3	1	6	4	11	1	13
23	**Pipevine Swallowtail** (*B. philenor*)	5	14	20	155	61	7	38
24	**Propertius Duskywing** (*E. Propertius*)	0	0	2	0	0	0	0
25	**Red Admiral** (*V. atalanta*)	19	47	24	30	21	24	28
26	**Rural Skipper** (*O. Agricola*)	0	0	0	1	5	22	5
27	**Sandhill Skipper** (*Polites sabuleti*)	40	5	92	17	3	6	6
28	**Satyr Anglewing** (*Polygonia satyrus*)	0	5	0	0	0	2	2
29	**Spring Azure/Echo Blue** - (*C. ladon echo*)	5	57	15	82	26	27	194
30	**Umber Skipper** (*P. melane*)	80	32	7	29	13	11	31
31	**West Coast Painted Lady** (*V. anna-bella*)	23	46	34	8	18	5	8
32	**Western Pygmy Blue** (*Brephidium exilis*)	0	0	1	0	0	0	2
33	**Western Tiger Swallowtail** (*P. rutulus*)	15	43	9	31	16	3	23
34	**Woodland Skipper** (*O. Sylvanoides*)	0	0	4	0	1	0	0
	TOTAL	746	957	896	703	734	464	1336
	Unidentified Papilionidae	0	0	1	0	0	1	9
	Unidentified ladies	15	5	2	2	0	0	0
	Unidentified swallowtails	0	0	0	0	2	0	0
	Unidentified pieridae	0	0	0	0	1	10	0
	Unidentified nymphalidae	9	17	14	7	16	10	46
	Unidentified hesperidae	5	11	6	21	14	4	7
	Unidentified Lycaenidae			5	18	10	10	42
	TOTAL Insects	775	990	924	751	777	499	1440
	TOTAL unidentified	29	33	28	48	43	35	104
	TOTAL ID'd	746	957	896	703	734	464	1336

WHY NO MISSION BLUES?

What about the **Mission Blue butterfly** that SF Recreation and Parks Department has been trying to introduce on Twin Peaks? Well, the count really doesn't provide any information because those butterflies have an **8-10 week flight season in April and May.** So unless the Count is very early and the flight season delayed, Mission Blues are unlikely to appear in this record. We'll report on them separately when we have all the data.

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PHENOTYPE VARIATIONS OF ADULT *NEPYTIA SEMICLUSARIA* (WALKER, 1863) (LEPIDOPTERA: GEOMETRIDAE) FROM ST. TAMMANY PARISH, LOUISIANA

BY

VERNON ANTOINE BROU JR.

Variations of adult ***Nepytia semiclusaria*** at sec.24,T6,SR12E, 4.2 mi. NE of Abita Springs, Louisiana males (a-h), females (j-z).

(Vernon Antoine Brou Jr., 74320 Jack Loyd Road, Abita Springs, Louisiana 70420 USA; E-mail: vabrou@bellsouth.net)

REPORT ON THE SPRING 2017 FIELD TRIP
BY
JOHN F. DOUGLASS

Sixteen nature-lovers, representing five eastern U.S. states, enjoyed a weekend of immersion in various habitats in the Central Panhandle of Florida on April 28-May 1. A gallery of photos from the trip follows.

Participants were: from **West Florida**, Sally Cooey and Leland Leonard [Florida Native Plant Society (FNPS), Pensacola), Bill and Marcia Boothe [Southern Lepidopterists' Society (SLS) & North American Butterfly Association, Bristol), Jody Wood-Putnam (FNPS, Panama City Beach), Susan J. Llorca (SLS & FNPS, Panama City Beach), James R. Burkhalter (University of West Florida, Pensacola); from **Gainesville**, James E. Hayden, Jeffrey R. Slotten, Deborah L. Matthews and Terry A. Lott, Barry Kaminsky (lichenology); from **Georgia**, Lance A. Durden (Georgia State University, Statesboro); from **Tennessee**, Donald R. Tangren (Cane Ridge); from the **Midwest**, James T. Vargo (Mishawaka, Indiana) and John Douglass (Toledo, Ohio).

Three days and nights of photography and collecting were carried out at The Nature Conservancy's **Rock Hill Preserve** southeast of Chipley. Additional collecting and observations were made in the **Apalachee Wildlife Management Area** north of Sneads, and at the **Blue Springs Recreational Area** east of Marianna. The group also enjoyed a visit to **Falling Waters State Park** south of Chipley.

We were very fortunate that six skilled moth specialists were among the attendees: the scientific results of their weekend's work will be the subject of a future report in the SL NEWS.

For their kind permission to visit sanctuaries in their care, and to collect voucher specimens, we thank David J. Printiss (The Nature Conservancy, Rock Hill Preserve), Joseph Morcate, Philip D. Manor, and Nathan Bunting (Florida Fish and Wildlife Conservation Commission, Apalachee WMA), Rett Daniels (Jackson County Parks, Blue Springs Recreational Area), and Tyler Macmillan (Northwest Florida Water Management District).

We departed from the area hoping that the Panhandle's intriguing habitats and lepidopteran faunas will entice other SLS members to visit and study there, along with our esteemed FNPS, NABA, and other friends.

Photo credits: **Figs. 1-8,13,14,26,** Bill and Marcia Boothe [© Natural Encounters/NatureInFocus.com]; **9,10,12,15,16,18-20,27,** Debbie Matthews; **11,22-25,** Jody Wood-Putnam; **17,21,** Jim Hayden; **28,** Northwest Florida Water Management District.

Fig. 1. Dot-lined Wave (*Idaea tacturata*).

Fig. 2. Common Gray (*Anavitrinella pampinaria*).

Fig. 3. Red-bordered Wave (*Idaea demissaria*).

Fig. 4. Large-striped Grass-veneer (*Crambus quinquareatus*).

Fig. 5. Snowy Urola (*Urola nivalis*).

Fig. 6. Crambid moth (*Chrysendeton imitabilis*).

Fig. 7. Giant Leopard Moth (*Hypercompe scribonia*).

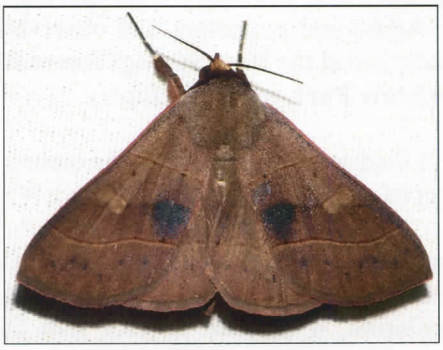

Fig. 8. Red-lined Panopoda (*Panopoda rufimargo*).

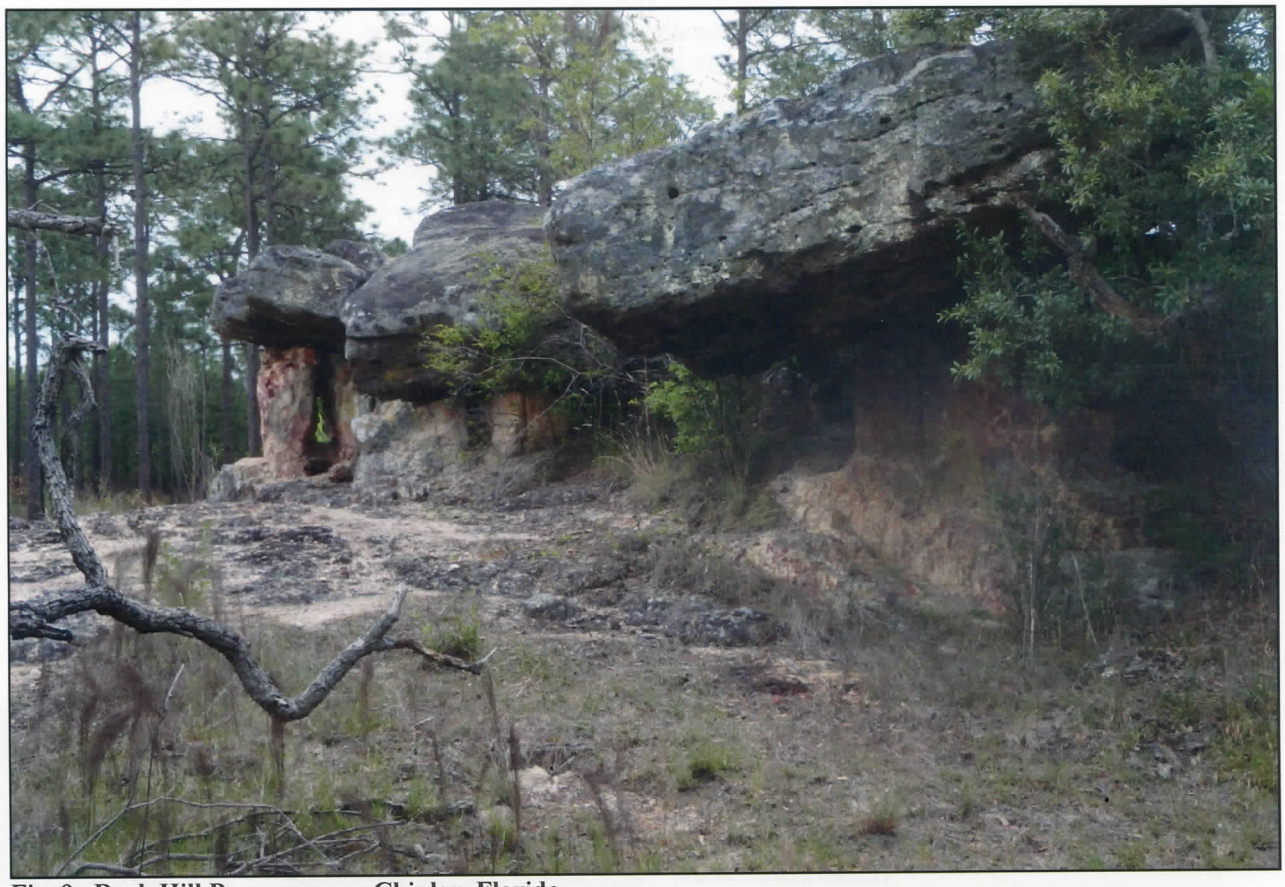

Fig. 9. Rock Hill Preserve near Chipley, Florida.

Fig. 10. Blue Springs Recreational Area near Marianna, Florida.

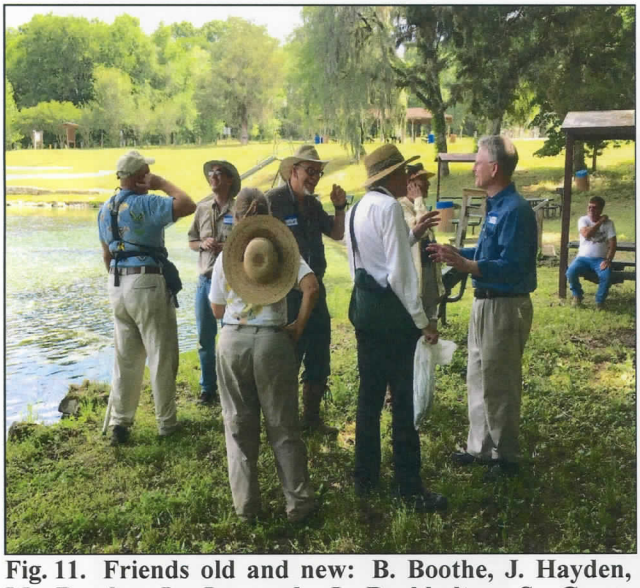

Fig. 11. Friends old and new: B. Boothe, J. Hayden, M. Boothe, L. Leonard, J. Burkhalter, S. Cooey, J. Douglass, D. Tangren.

Fig. 12. Blue Springs: S. Cooey, J. Douglass, B. Boothe, M. Boothe, J. Burkhalter, J. Wood-Putnam, S. Llorca.

Fig. 13. Examining lichens at Rock Hill: B. Kaminsky, B. Boothe, J. Douglass, J. Burkhalter.

Fig. 14. Admiring yellow pitcher plants (*Sarracenia flava*) at Rock Hill: J. Douglass, S. Cooey, J. Burkhalter, L. Leonard, B. Boothe.

Fig. 15. Jim Hayden in the Apalachee WMA.

Fig. 16. Jeff Slotten prepares a light trap, Rock Hill.

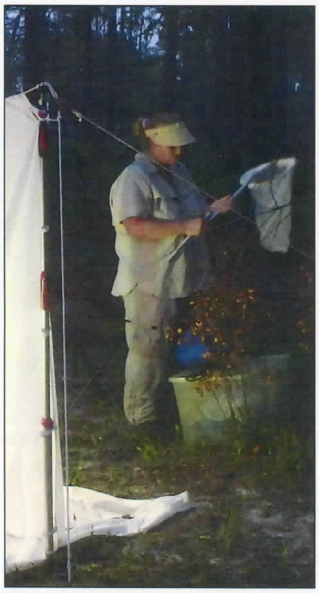

Fig. 17. Debbie Matthews at dusk, Rock Hill.

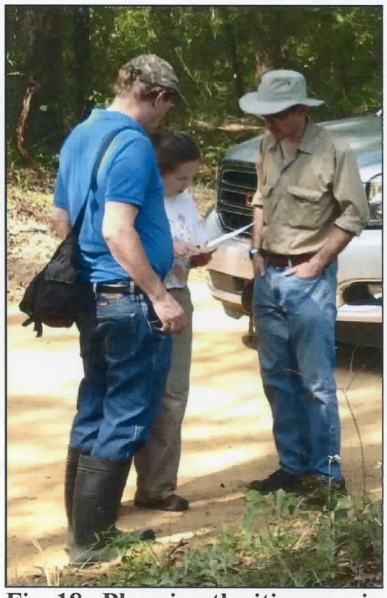

Fig. 18. Planning the itinerary in the Apalachee WMA: L. Durden, M. Boothe, J. Hayden.

Fig. 19. B. Boothe and J. Burkhalter discussing botany in the Apalachee WMA.

Fig. 20. Mothing at Rock Hill: L. Durden, J. Douglass, D. Tangren, T. Lott.

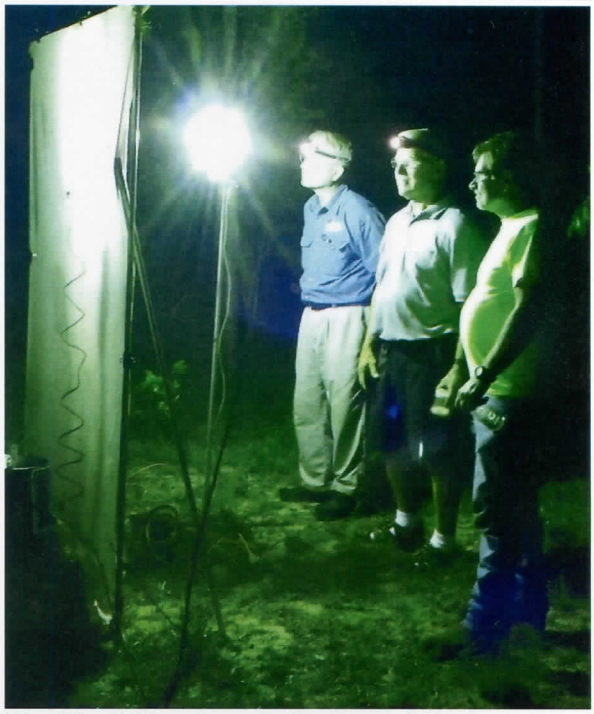

Fig. 21. J. Douglass, J. Vargo, and D. Tangren at Rock Hill.

Fig. 22. Common Buckeye (*Junonia coenia*).

Fig. 23. American Lady (*Vanessa virginiensis*), Blue Springs.

Fig. 24. Duskywing (*Erynnis* nr. *horatius*), Blue Springs.

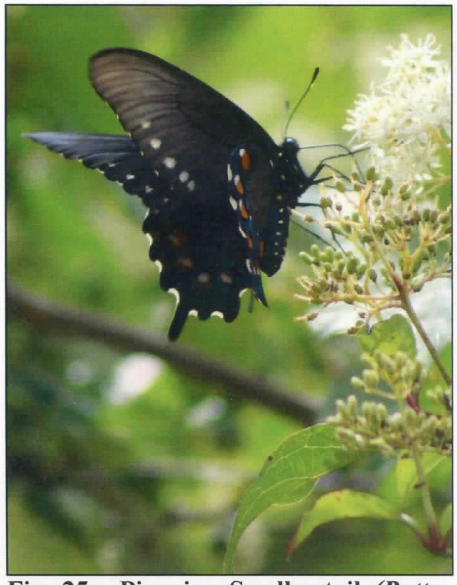

Fig. 25. Pipevine Swallowtail *(Battus philenor*) visiting flowers of dogwood (*Cornus foemina*), Apalachee WMA.

Fig. 26. S-banded Tiger Beetle (*Cicindela trifasciata ascendens*), Blue Springs.

Fig. 27. Eggs of apple snail *(Pomacea paludosa*), Blue Springs.

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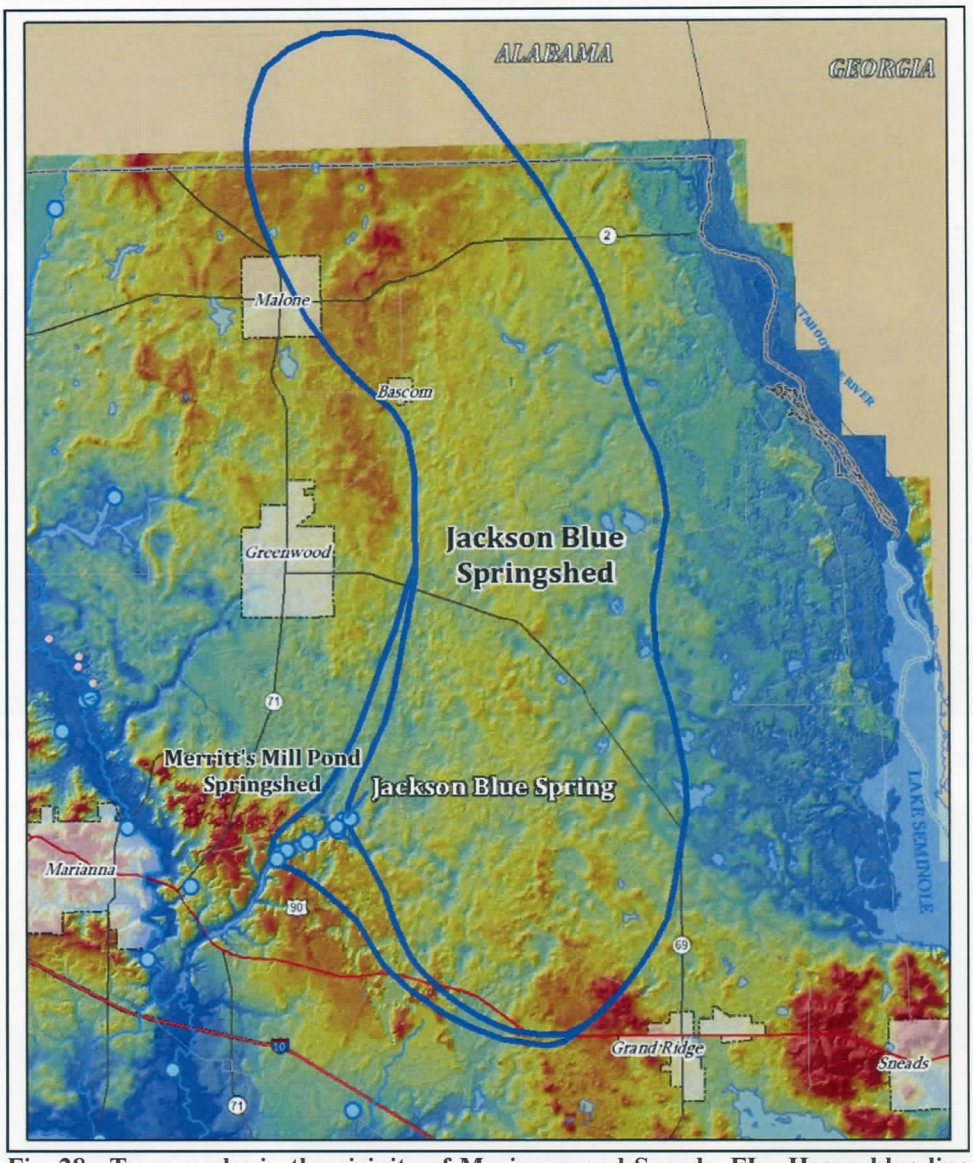

Fig. 28. Topography in the vicinity of Marianna and Sneads, FL. Heavy blue line demarcates Jackson Blue Springshed. To the east, Apalachee WMA lies along Lake Seminole, north of Sneads.

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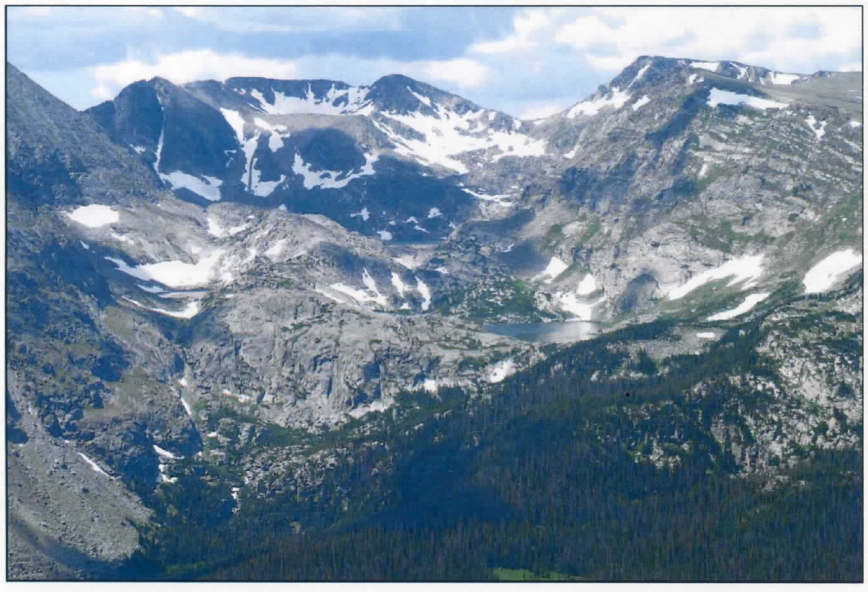


Rocky Mountain National Park: View across Forest Canyon along Trail Ridge Road (Credit: Michael P. Blanton, PhD, July 31, 2017).

[Slightly better view than from my house in Lubbock, Texas – The Editor.]

CHASING NORTHERN BUTTERFLIES IN THE NORTH STAR STATE

BY

CRAIG W. MARKS

Back in 2011 I wrote an article for the SLS News about a trip I had taken to visit my daughter in the New York City area. The article took its premise from a series of even earlier articles in NABA's American Butterfly magazine wherein different members identified their top ten wish list of butterflies they would most like to see. Virtually all of the lists reflecting butterflies that were found beyond the immediate area of where each member lived. In my article, my top ten list since 2009 had been the Harris' Checkerspot, Early Hairstreak, Nokomis Fritillary, Pine Satyr, Gillette's Checkerspot, Short-tailed Swallowtail, Pink-edged Sulphur, Hayden's Ringlet, Purplish Copper, and Sonoran Blue.

My hope for the trip to New York was to see a Harris' Checkerspot. While that trip produced several "lifers", I didn't see any Harris' Checkerspots. Jump forward to 2017, and my list had not changed. In the intervening six years, I had not seen a single butterfly on that list. That was about to change.

Specifically, in 2015, I had been contacted by a avid butterflier in California, Mike Mulligan. He was interested in attending one of my NABA counts in Arkansas in order to see Diana Fritillaries, along with some other southern species. Last October, while I was in California on business, he and I spend an afternoon looking for butterflies (unsuccessfully, I might add, as southern California was in the midst of a horrible drought). While together, we talked about places we each wished to visit to see different species. He mentioned Minnesota, and the seeds were planted for a trip there during the summer of 2017.

As I noted in the referenced 2011 article, I had previously traveled to southeastern North Dakota/west central Minnesota and participated in a NABA count at Itasca State Park with Marlene and John Weber. I had seen many northern butterflies for the first time there at Itasca, and John had given me directions to other locations near Bemidji where I was successful in seeing even more. Based on this earlier experience, Mike and I agreed to met in Fargo ND during early July and visit some of the same spots I had visited previously.

While Mike hoped to see many of the Minnesota species I had seen on my earlier trip (White Admirals, Compton Tortoiseshells, Baltimore Checkerspots), I hoped to see some new species, particularly skippers such as Mulberry Wings, Long Dashes, Indian Skippers, Dakota Skippers and Two-spotted Skippers. And the trip presented another opportunity to see a Harris' Checkerspot.

On Saturday, July 8, I landed in Fargo N.D, around 2:00, and Mike was there waiting. We headed south about one hour to the Sheyenne Grasslands in Richland County where I hoped to find some Mulberry Wings. Near the Sheyenne River we found a low, wet area with a lot of sedge. Mulberry Wings use Carex sedges as their larval food plant so we waded in. There were actually two kinds of sedges present, a wide, thick stemmed sedge that was about chest high, and a shorter (waist high), thinner stemmed sedge.

Within five minutes, Mike reported seeing a couple of dark skippers with yellow markings. We initially were searching in the taller sedges without success, so I went back to the point where he first saw what we believed to be Mulberry Wings. It was at that point that I realized there were two kinds of sedge present, and the shorter, thinner stemmed sedge was growing in an area that was 3-4 feet higher than the taller sedge. There, flying in and along the tops of the shorter sedge I found both male and female Mulberry Wings, my first "lifer" of the trip.

Mulberry Wing,
Richland Co., ND (8-VII-2017)

I ended up seeing between 15 and 20 Mulberry Wings, most of which appeared fresh. Similar to Duke's and Berry's Skippers that fly here in the Deep South (both are also sedge feeders), they fly right down in the sedge, only occasionally popping up to the level of the sedge tops. Flying in the same area were Great Spangled Fritillaries, Meadow Fritillaries, Azures, Acadian Hairstreaks, Viceroys, Eyed Browns, Dion Skippers, Least Skippers and Dun Skippers.

While in the immediate area of the Mulberry Wing colony, I saw a larger, orange skipper (slightly smaller

than the Dion Skippers flying in the area) which I initially thought might be a female Sachem due to the ventral coloring and the presence of an ever so slight patch of blotches in the center of the ventral hindwing. However, on closer inspection of the dorsal side, I could see that it was not a Sachem. John Weber later confirmed that Sachems are not common in the region, only occasionally appearing as a late summer/fall migrant.

My next thought was that the skipper was a female Byssus Skipper, a skipper with which I am familiar from southwestern Arkansas. The "fly in that ointment" was that neither Marrone (2002), Royer (2003), Patterson (2011) nor Glassberg (1999) report Byssus Skippers reaching that far north. Besides, Byssus Skippers use gamagrass as their larval food plant, and this skipper was flying in a large area filled with sedge. So, I sent pictures to Kilian Roever and asked for help.

Kilian was kind enough to respond promptly, suggesting the skipper was a female Buchhotz Black Dash, *Euphyes conspicua buchholtzi*, the most western subspecies. The Black Dash is primarily a northern skipper, ranging from New England, across the Great Lakes region into eastern Minnesota as well as into north/northeastern Iowa and northeastern Nebraska. It is a denizen of marshes and wet meadows, a sedge feeder and reported by numerous sources as typically found flying alongside Mulberry Wings.

The *E.c. buchholtzi* subspecies from NE was described by Howe (1975) as very large and by Schlicht, et al (2009) as larger and darker than *E.c. conspicua*, the typical subspecies across it range. Both Bouseman, et al, (2006) and Sedman and Hess (1985) reported that female Black Dashes resembled and could be confused with female Byssus Skippers in Illinois. So, question answered, right? BUT, neither Marrone (2002) nor Royer (2003) report the presence of Black Dashes in South Dakota or North Dakota, respectively. Patterson (2011) did not show it as reported along Minnesota's western border with the Dakotas.

Taken in concert, these individual pieces combine to convince me the skipper is a female Black Dash, possibly the first recorded in North Dakota. She is a match dorsally even though ventrally (specifically the lower ventral wing), caused me some doubt. The guides all show a clearly discernible series of light blotches (not really spots) in the center of the ventral lower wing, and on my specimen those blotches are hardly discernible. Both Meske's and Byssus Skippers have similar markings on their lower ventral wing, and I have seen several specimens on which those markings were virtually absence. I believe this specimen presents a similar circumstance. It is not a Dion Skipper, nor is it a Byssus Skipper. As the old saying goes, "if it looks like a duck, it must be a duck."

At this time of the year in MN it stays light much later into the evening, and the butterflies remained on the wing later than I experience in the Deep South. We continued to see butterflies along the road until just after 7:00 pm before heading back toward Fargo and then east into Minnesota. Arriving at around 10:00 pm, we spent that night at the Riverside Inn in Hawley MN. The Riverside Inn is a true old fashion Inn with a bar/grill and ten small rooms (you check in with the bartender). If you ever make plans to stay at the Riverside Inn, don't bring your American Express card because they won't take it. And before you think this is about to turn into an advertisement for VISA or Mastercard, you should know they won't take those cards either. Cash only.

When Mike and I decided to visit Minnesota, I was able to make contact with John Weber again. As he had the first time I was in MN, he provided detailed directions to several locations where we might see some of our target species. Specifically, he suggested Badura Jack Pine SNA for Pink-edged Sulphurs because wild blueberries grew there; a spot near his home in Nevis for Purple Coppers; in and around Itasca State Park for Compton's Tortoiseshells and White Admirals; a county road near Bemidji for Baltimores and the board walk at Bemidji State Park for Dorcus Coppers. Both Marlene and he had suggested a specific road outside of Itasca for Harris' Checkerspots but warned they might be past their peak flight time.

The weather forecast for Sunday had been great the day before, but when we awoke, the skies were gray, there was a very slight drizzle and the temperatures were in the low 60's. As we drove east to Badura, the weather didn't improve. On the drive, we saw at least 10 Wild Turkeys (including one hen with chicks), Sandhill Cranes, Mergansers (a mother with chicks) and two deer. There were small ponds, lakes and streams everywhere.

It was still 63 degrees when we arrived at Badura with a slight drizzle. While the rain did stop, the skies remained gray with the temperatures in the 60s. Just before we left, the sun came out and I saw a fresh male Milbert's Tortoiseshell. Other species included Common Wood Nymphs (the dark brown, almost black, northern subspecies without the yellow eyespot patches), Northern Pearly-eyes, Northern Crescents, Great Spangled Fritillaries, Meadow Fritillaries, Painted Ladies and one White Admiral. I saw no Pink-edged Sulphurs. Mike and I had split up to cover

more ground, and he had seen two. I walked the area where he had been seen them, without luck despite the present of absolutely hundreds of smallish, low-growing blueberry bushes.

We left around noon, and headed for Nevis. As we traveled back to the west, the skies cleared and by the time we reached Nevis, the sun was shining, and it had warmed into the 70's. With John's help, we found the location near him that he had suggested, and within ten minutes of our arrival I saw a fresh female Purplish Copper resting on its local food plant, a species of knotweed. She was not only the second lifer for the trip, but also a species on my top ten wish list that I could now mark as seen. Eyed Browns and European Skippers were very common at this location. Other species included a male Bronze Copper (one of Mike's goals), an Edwards Hairstreak (the only one seen this trip) and several Long Dashes.

From Nevis, we again headed back toward the west, to a road just north of Itasca State Park. It was along this road I had seen Compton's Tortoiseshells and White Admirals with John Weber on my previous trip and both were on Mike's hot list. And that road was where both Marlene and John had suggested I might see Harris' Checkerspots. Again, with John's kind help, we found the road without difficulty.

Returning to the principle thread of this story, my original top ten list had included the Baltimore Checkerspot, but after I found a couple of colonies of the Baltimore "Ozark" subspecies in northern Mississippi, I replaced that species with the Harris' Checkerspot. Described by Glassberg as, "one of our most striking butterflies," I included the Harris' Checkerspot for several reasons, including (1) its reported mimicry of the Baltimore, (2) its remoteness from Louisiana, and (3) its patchy distribution across its range in the Northeast and Midwest.

The exclusive larval food plant for the Harris Checkerspot is flat-topped aster. I recall seeing a small number of this plant at the site in New York, but have no recollection of seeing any the first trip to Minnesota. Along CR 400, located outside of Itasca State Park, there were numerous such plants growing in a power-line right-of-way.

I tried walking out into the right-of-way to see if I could find any caterpillars on the plants. It turned out the dominant grass in that power-line, which had grown to about waist height, grew in large, thick clumps with deep, narrow gaps between the clumps that contained standing water. I stumbled twice as I tried to reach the flat-topped aster and decided the footing was too treacherous. I stumbled twice more trying to get back to the road, once disappearing completely from view. I resigned myself to stay on the road thereafter.

The first Harris Checkerspot I saw was basking dorsally and I mistook it for a Silvery Checkerspot. As I noted previously, there is a line of thought that the Harris Checkerspot might be a Baltimore mimic ventrally. Most field guides depict the eastern Harris' subspecies, and I can see the similarity, but that is not the case with the subspecies that is found in Minnesota. That subspecies, *C. h. hanhami,* is described by Scott (1986) as lighter than the dark, eastern subspecies, *C. h. harrisii.* Howe (1975) stated that *hanhami* has more orange and "approaches *nycteis drusius* (the Silvery Checkerspot subspecies in this region) on the underside." Klassen, et al, (1989) also noted the more extensive orange dorsally on *hanhami* and commented that the ventral spots are paler and not as distinct.

The pictures below reflect the similarity between the Silvery and Harris' Checkerspots in Minnesota. Nature does nothing by accident, and I wonder why the *hanhami* subspecies has evolved to resemble the Silvery Checkerspot rather than the distasteful Baltimore. Certainly, Baltimores are present in Minnesota. In fact, at the intersection of CR 400 and 150, just outside of Itasca, there was a low growing bush that was full of small, bell-shaped pinkish and white flowers. I found both Harris' and Baltimores (as well as Silvery Checkerspots) taking nectar at those flowers.

Silvery Checkerspot ventral and dorsal (9-VII-2017)(Hubbard Co., MN)

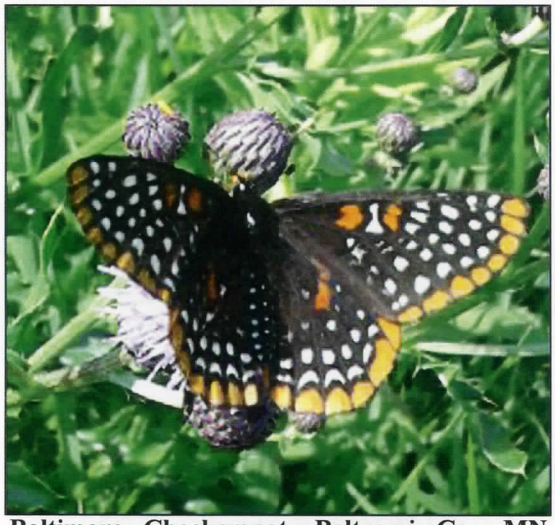
Harris' Checkerspot ventral and dorsal (9-VII-2017)(Hubbard Co., MN)

It was not until the second Harris' that I realized I was seeing something different. As that one flew toward

me, I saw more distinctly the yellow ventral side. Once in hand, I could see there are subtle differences, both dorsally and ventrally, between it and the Silvery Checkerspot, but I certainly saw no similarities between *hanhami* and the Baltimore Checkerspot subspecies that lives in this region. I ended up seeing five Harris'. The species must have been at the end of its annual flight as three of the five showed various degrees of wear. While I would still like to see the eastern subspecies, I can now also remove this species from my top ten "wish" list.

We stayed in that area until almost 6:00, then drove north to Bemidji where we got a full night's sleep at a local Super 8 Motel. The next day broke with full sunshine, and we headed out early to a location John had suggested and I had previously visited, looking for the northern/eastern subspecies of Baltimore Checkerspots. It was a short drive out of Bemidji to CR 2 in Beltrami Co. As we approached a T-Mike's truck, we could see two male Baltimores feeding at some thistle blooming in the ditch beside the road.

Within 30 minutes, I had seen at least 15, both males and females, primarily feeding at thistle. They were so docile that I could get right next to them for pictures (see below). Having accomplished that goal, we

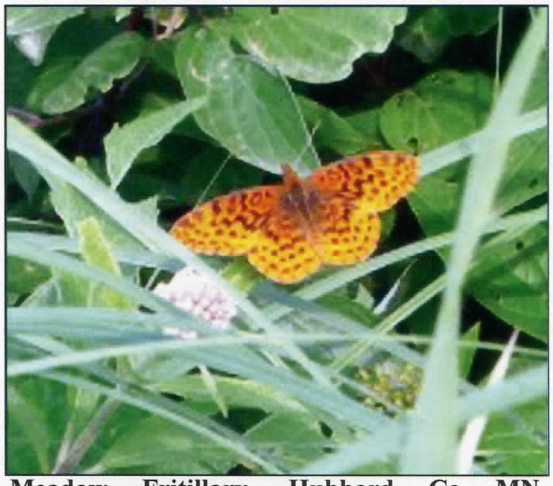


Baltimore Checkerspot, Beltrami Co., MN (9-VII-2017)

headed back to Bemidji and Bemidji State Park, principally looking for Dorcus and Bog Coppers. This was the only visit that did not yield the desired results. While there were many butterflies on the wing, we saw no coppers even though I found several of the food plant, marsh cinquefoil, along the park's boardwalk out into the bog. We did see a Harvester on the boardwalk, and the park was full of Veined Whites, Northern Pearly-eyes, Greater Fritillaries and Northern Crescents. Mike also saw his first Compton's Tortoiseshell.

We decided to head back to CR 400 near Itasca. On the drive from Bemidji to Itasca State Park, we "crossed" (I use that term loosely) the Mississippi River three times. The first time, the river was maybe 15 feet wide. We stopped the second time where it was no more that 8-10 feet wide (see the picture on next page). About a mile later it was less than five feet wide and really looked more like a small bayou in Louisiana. I understand there is a spot inside of Itasca State Park where a person can step over the river, but we weren't there as tourists and passed on finding that spot.

We spent the remainder of Monday afternoon back at CR 400 in Hubbard Co. On that second visit, after the rain on Sunday, there were many butterflies "puddling" on the road. The list included Compton Tortoiseshells, Eastern and Gray Commas, Mourning Cloaks, Veined Whites, Common Sulphurs, Azures, Harvesters (Mike saw three), Northern Crescents, White Admirals and many Dun Skippers. Feeding at common milkweed, thistle and other flowers were Canadian Tiger Swallowtails (the fourth lifer of this trip), Coral Hairstreaks, three species of Greater



Meadow Fritillary, Hubbard Co. MN, (10-VII-2017)

White Admiral, Hubbard Co., MN, (10-VII-2017)

Mississipi River, few miles north of Itasca State Park, MN

Fritillaries, two of the Lesser Fritillaries, three species of checkerspots, Milbert's Tortoiseshells, at least one Monarch, Silver-spotted Skippers, Long Dashes and one lonely Peck's Skipper. Moving around in the grass were Eyed Browns and Northern Pearly-eyes. There were large, fifth instar Monarch caterpillars on several of the milkweed plants. I even saw several River Jewelwings. Truly a magical spot.

We left about 5:30 and drove back to Fargo that evening. Because of the time (7:00ish), we passed on stopping at Buffalo River State Park to see any Regal Fritillaries were flying yet. Early the next morning I was on a plane back to Louisiana. I had seen 48 species, including five for the first time and four others for only the second time. Mike and I are already discussing next July and a trip to Wyoming to see if he can help me find some Gillette's Checkerspots and/or Hayden's Ringlets, two more species on my top ten list.

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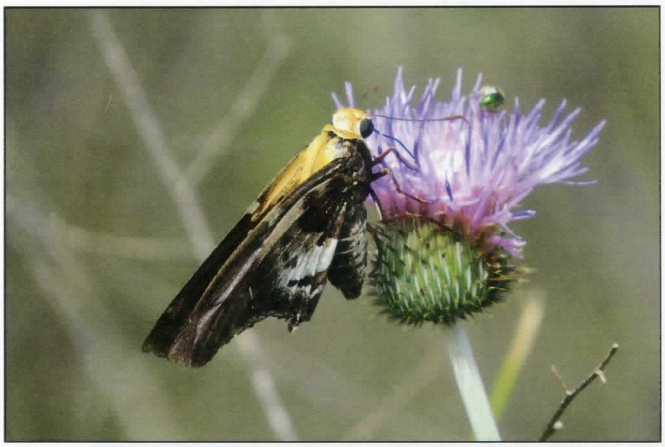
MERCURIAL SKIPPER IN NORTH TEXAS

BY

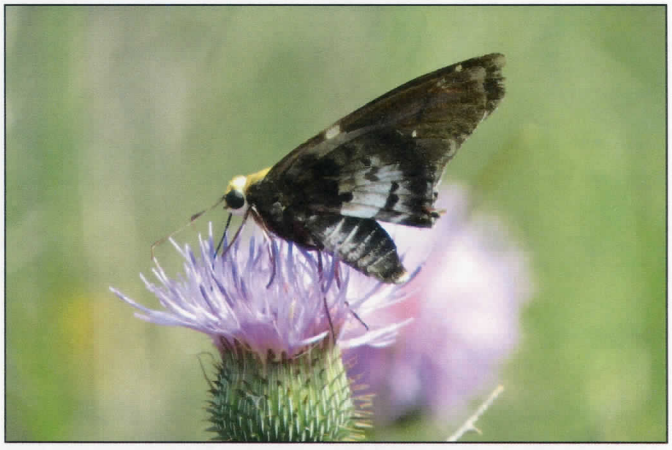
MONICA KRANCEVIC



Mercurial skipper (*Proteides mercurius*)

Jennifer Linde, a former park ranger, enjoys spending free time at the Lewisville Lake Environmental Learning Center (LLELA) in Denton County, northwest of Dallas, TX. On May 29, 2017, she noticed an unusual skipper nectaring on a thistle. She asked for ID help after posting the sighting to iNaturalist. Yes, indeed, it was a very unusual butterfly for the area – the Mercurial Skipper (*Proteides mercurius*), a resident of Argentina north through Central America to Mexico and the West Indies. Although listed as a rare stray to Arizona, Florida, Louisiana and Texas, her observation appears to be the farthest north this little beauty has been seen. Jennifer's reaction to her find? "What does it say about

Mercurial skipper (*Proteides mercurius*)



Mercurial skipper (*Proteides mercurius*)

me that this is honestly one of the most exciting things that has happened to me in a long time? I admit, I hit the trail again this afternoon [May 30] after work hoping to see this skipper again, but no luck."

If you're in the right place at the right time…

(Monica Krancevic, E-mail: mmk77566@gmail.com)

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Rocky Mountain National Park: View of Marmot along Trail Ridge Road at Rock Cut (Credit Michael P. Blanton, PhD, July 31, 2017)

A MOTH BIOBLITZ INVENTORY FOR ROCK HILL PRESERVE AND APALACHEE WILDLIFE MANAGEMENT AREA IN NORTHWESTERN FLORIDA

BY

LANCE A. DURDEN, JAMES T. VARGO, JAMES E. HAYDEN, JEFFREY R. SLOTTEN, DONALD R. TANGREN, AND DEBORAH L. MATTHEWS

The moth fauna of northern Florida has been documented in some detail by Kons and Borth (2006), but significant new records and insights continue to be forthcoming (Kons et al. 2017). For the second consecutive year, the Southern Lepidopterists' Society carried out a spring field trip to record Lepidoptera, and to observe other organisms, in northwestern Florida (Douglass 2017). The 2017 field trip ran from 28 April through 1 May and included moth recording mainly at two sites, Rock Hill Preserve (The Nature Conservancy) in Washington County, and Apalachee Wildlife Management Area (WMA) in Jackson County (Fig. 1). Limited observations of moths made at a third site, Blue Springs Recreational Area, five miles east of Marianna in Jackson County (Fig. 1), are not included here. Throughout the four-day field trip, 16 moth enthusiasts and other naturalists contributed to the team effort for varying amounts of time.

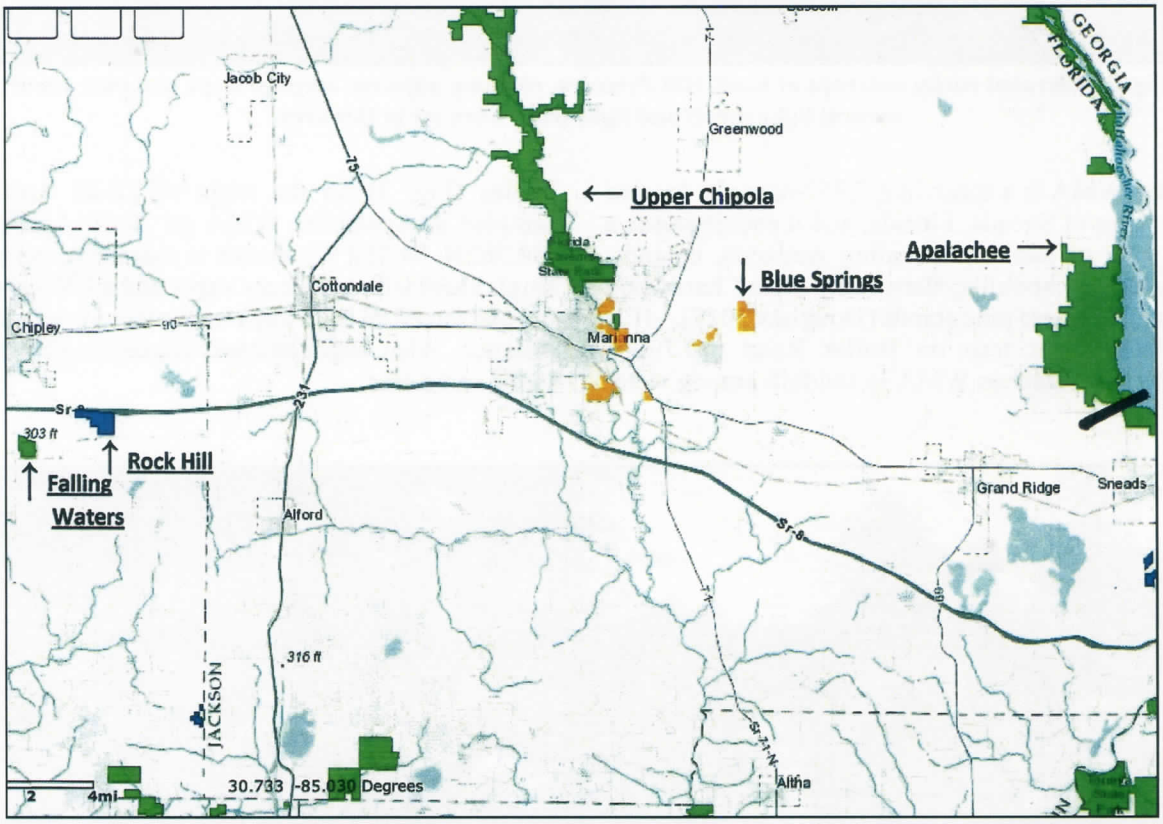

Fig. 1. Map showing the locations of Rock Hill Preserve, Apalachee Wildlife Management Area, and Blue Springs Recreational Area in northwestern Florida.

Rock Hill Preserve is a 379-acre site located in northwestern Washington County about two miles southeast of the town of Chipley. It includes five natural habitats: upland pine forest, upland mixed forest, seepage slope, seepage stream, and rock outcrop. The slightly elevated, sandy limestone outcrop area (Fig. 2) is unique and is encircled by a seepage slope with sparse pine trees, an associated herbaceous bog, a seepage stream, and a small stand of pitcher plants. The rock outcrops have a rich fauna of associated lichens with more than 80 species recorded from the Preserve (Griffin et al. 1995). Much of the Preserve was subjected to a prescribed burn in February 2017. The rocky outcrops and immediately surrounding habitat (30.736N, 85.483W) were sampled fairly intensively for moths during the first two nights of the field trip, with five separate light sheets and at least eight light traps operating on the night of 28 April. This night also experienced a mass emergence of winged reproductives (alates) of the Florida carpenter ant (*Camponotus floridanus*) so, in addition to moths, the sheets and traps were replete with winged ants.

Fig. 2. Elevated rocky outcrops at Rock Hill Preserve, showing adjacent seepage slope and pine stand; several light sheets and light traps were set in this area.

Apalachee WMA is a sprawling 7,952-acre site located near the town of Sneads, Florida, and it encompasses a diverse suite of habitats including wetlands, uplands, dome swamps, sandhills, flatwoods, mixed hardwood forests, and longleaf pine stands (Douglass 2017). JEH set one UV light trap on Butler Road (30.799N, 84.963W) at Apalachee WMA in sandhill among water bodies (Fig. 3) on the night of 28-29 April. JTV sampled at Apalachee WMA on 29-30 April at a site (30.762N, 84.959 W) chosen to maximize exposure. A single sheet with a mercury vapor and a UV light was set up, and three UV light traps were placed over a half-mile distance. Also, sugar bait was applied to about 40 trees in the same area.

Fig. 3. Sandhill oak scrub habitat and adjacent pond along Butler Road, Apalachee WMA, showing light trap.

Table 1 lists the moth species recorded at Rock Hill Preserve and Apalachee WMA during the field trip, together with known larval food sources compiled from Wagner (2005), Kons and Borth (2006), Heppner (2007), Wagner et al. (2011), Kons et al. (2017), and Robinson et al. (2017). Figures 4-30 show some of the moth species recorded. A total of 226 species of moths was recorded from Rock Hill Preserve, and 207 species were recorded from Apalachee WMA (total, 351 species for the two sites combined) (Table 1). Eighty species of moths were recorded at both sites.

At least one undescribed moth species was collected (*Battaristis* n. sp., Gelechiidae), and a few additional specimens have not yet been identified beyond family or genus (Table 1, Figs. 8, 9, 20). One moth species recorded, *Aethes baloghi* (Tortricidae) (Fig. 12), apparently represents a new record for Florida (MPG 2017). According to Kons and Borth (2006), Heppner (2007), and MPG maps, the following species recorded during this bioblitz do not appear to be widespread in Florida: *Eccritothrix trimaculella* (Tineidae), *Antaeotricha osseella* (Oecophoridae), *Elachista cucullata* (Elachistidae), *Holcocera immaculella* (Blastobasidae), *Dichomeris costarufoella* (Gelechiidae), *Olethreutes furfuranum, Olethreutes griseoalbana, Eucosma palabundana, Proteoteras moffatiana*, *Henricus contrastanus,* [*Cochylina* – no genus] *glaucofuscana* (Tortricidae), *Chrysendeton nigrescens, Eoparargyractis plevie, Pyrausta subsequalis, Chilo erianthalis* (Crambidae), *Acrobasis minimella, Actrix dissimulatrix* (genitalic dissection by JTV) (Pyralidae), *Lomographa vestaliata, Lytrosis sinuosa* (Geometridae), *Arugisa lutea, Catocala grynea* (Erebidae), *Cydosia aurivitta, Tripudia rectangula,* and *Balsa labecula* (genitalic dissection by JEH) (Noctuidae). With respect to *E. plevie*, one of us (JEH) has found this species to be more widespread in Florida than indicated by previously published data. At least four specimens of the infrequently-collected thyridid *Meskea dyspteraria* were attracted to different light sheets and moth traps on the night of 28 April at Rock Hill Preserve. According to J. R. Burkhalter, *Hibiscus moscheutos*, a known host, was found in the area. Kons et al. (2017) discuss possible taxonomic revisions for consideration related to the following moth species reported here: *Hyparpax perophoroides, Phytometra rhodarialis, Hyperstrotia nana, Zanclognatha minoralis*, and *Pseudanthracia coracias.*

Moths with larvae that feed on oaks (*Quercus*) and pines (*Pinus*) were abundant at both sites (Table 1), reflecting some of the dominant trees at these localities. Interestingly, our Rock Hill list includes examples of both wetlands-dependent species (*Nemoria elfa, Xanthopastis regnatrix, Doryodes bistrialis*) and xeric oak-pine scrub dependent species (*Grammia doris, Hyparpax perophoroides, Pygarctia abdominalis*) (e.g, Kons and Borth 2006). Some hostplant specialists are included in our records, especially from Rock Hill Preserve where the sundew-associated plume moth *Buckleria parvulus* was recorded and at least three moth species (*Cisthene plumbea, Hypoprepia fucosa, Idia lubricalis,* possibly also *Epicallima argenticinctella* and *Ablemma brimleyana*) with lichenivorous larvae were recorded (Table 1), possibly a reflection of the rich fauna of lichens growing on the rocky outcrops. Other recorded moths with specialist larvae include various species that feed on detritus, dead leaves, tree bark, fungi, algae, in plant stems, in seed pods, and in galls (Table 1). However, according to available databases, larval food sources remain unknown for 87 (25%) of the moth species we recorded (Table 1).

Although 351 species of moths from two sites in northwestern Florida seems impressive for a bioblitz lasting only a few days, many additional species would be recorded during year-long surveys at these sites. Voucher specimens from this study are deposited in the McGuire Center for Lepidoptera and Biodiversity at the University of Florida, the Entomology Collection at Georgia Southern University, and in the working collections of the authors.

Acknowledgments

We are especially grateful to John F. Douglass, who secured all required permits in addition to planning and providing logistical support for this project. For their kind permission to visit sanctuaries in their care, and issuance of collecting permits, we thank David J. Printiss, Jana Mott, and Stephanie Hunnicutt of The Nature Conservancy (North Florida Program office, Bristol) [Rock Hill Preserve], Joseph Morcate (Panama City), Philip D. Manor (Wewahitchka), and Nathan Bunting (Sneads) of the Florida Fish and Wildlife Conservation Commission [Apalachee WMA], and Rett Daniels, Director of Jackson County Parks (Marianna) [Blue Springs Recreational Area]. For logistical support locally, specimen records, and other assistance, we thank Terry A. Lott (University of Florida, Gainesville), Bill and Marcia Boothe (Natural Encounters/NatureInFocus, Bristol), Sally Cooey and Leland Leonard (Pensacola), Susan J. Llorca (Panama City Beach), Jody Wood-Putnam (Florida Native Plant Society, Panama City Beach), and Hugo L. Kons, Jr. (Appleton, WI). For their contribution of botanical information during the field trip, we thank James R. Burkhalter (vascular plants, University of West Florida, Pensacola) and Barry Kaminsky (lichens, University of Florida).

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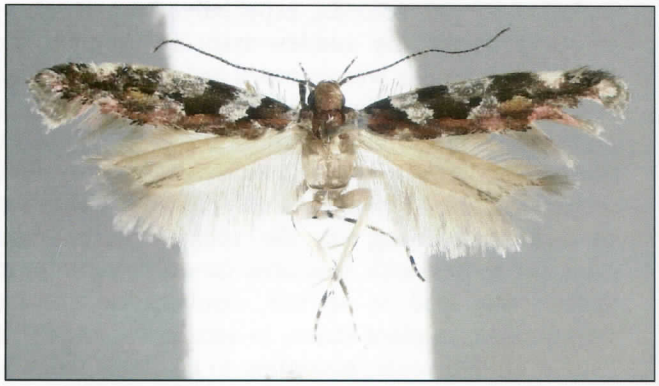

Fig. 4. ***Aristotelia intermediella*** **(Gelechiidae) (MONA 1740), Rock Hill Preserve, 28 April 2017.**

Fig. 5. ***Aristotelia pudibundella*** **(Gelechiidae) (MONA 1756), Apalachee WMA, 29 April 2017.**

Fig. 6. ***Dichomeris bipunctella*** **(Gelechiidae) (MONA 2274), Apalachee WMA, 29 April 2017.**

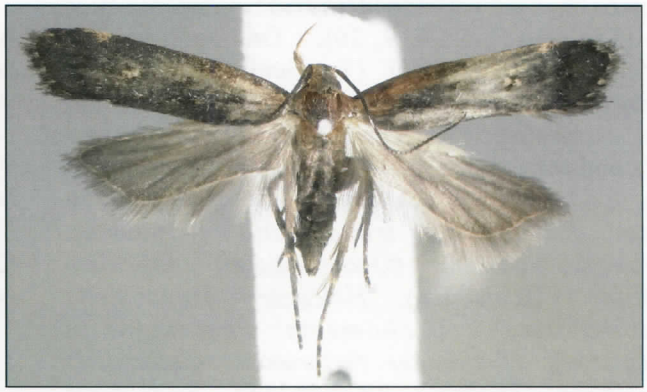

Fig. 7. ***Dichomeris costarufoella*** **(Gelechiidae) (MONA 2293), Rock Hill Preserve, 28 April 2017.**

Fig. 8. Undetermined gelechiid (sp. 1), Apalachee WMA, 29 April 2017.

Fig. 9. Undetermined gelechiid (sp. 2), Apalachee WMA, 29 April 2017.

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Fig. 10. *Larisa subsolana* (Tortricidae) (MONA 3423), Rock Hill Preserve, 28 April 2017.

Fig. 11. *Choristoneura rosaceana* (Tortricidae) (MONA 3635), Blue Springs Recreational Area, 29 April 2017.

Fig. 12. *Aethes baloghi* (Tortricidae) (MONA 3755), Apalachee WMA, 29 April 2017.

Fig. 13. *Henricus contrastanus* (Tortricidae) (MONA 3796), Rock Hill Preserve, 28 April 2017.

Fig. 14. *Chrysendeton imitabilis* (Crambidae) (MONA 4746), Rock Hill Preserve, 28 April 2017.

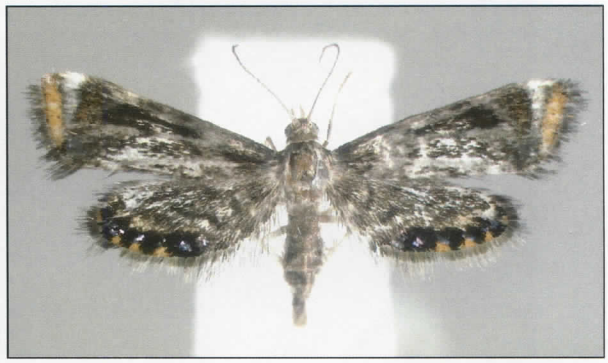

Fig. 15. *Chrysendeton nigrescens* (Crambidae) (MONA 4746.1), Rock Hill Preserve, 28 April 2017.

Fig. 16. *Eoparargyractis irroratalis* (Crambidae) (MONA 4785), Blue Springs Recreational Area, 29 April 2017.

Fig. 17. *Eoparargyractis plevie* (Crambidae) (MONA 4787), Rock Hill Preserve 28 April 2017.

Fig. 18. *Glaphyria sequistrialis* (Crambidae) (MONA 4870), Blue Springs Recreational Area, 29 April 2017.

Fig. 19. *Leptosteges vestaliella* (Crambidae) (MONA 5306), Apalachee WMA, 29 April 2017.

Fig. 20. *Neodactria* sp. (Crambidae), Apalachee WMA, 29 April 2017.

Fig. 21. *Chilo erianthalis* (Crambidae) (MONA 5471), Apalachee WMA, 29 April 2017.

Fig. 22. *Meskea dyspteraria* (Thyrididae) (MONA 6085), Rock Hill Preserve, 28 April 2017.

Fig. 23. *Buckleria parvulus* (Pterophoridae) (MONA 6098), Rock Hill Preserve, 28 April 2017.

Fig. 24. *Tornos cinctarius* (Geometridae) (MONA 6485), Apalachee WMA, 29 April 2017.

Fig. 25. *Lacosoma chiridota* (female) (Mimallonidae) (MONA 7659), Rock Hill Preserve, 28 April 2017.

Fig. 26. ***Zanclognatha*** **nr.** ***minoralis*** **sp. 1 (Erebidae), Apalachee WMA, 29 April 2017.**

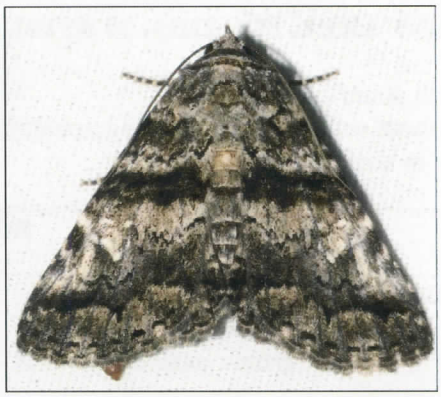

Fig. 27. ***Metria amella*** **(Erebidae) (MONA 8666), Rock Hill Preserve, 28 April 2017.**

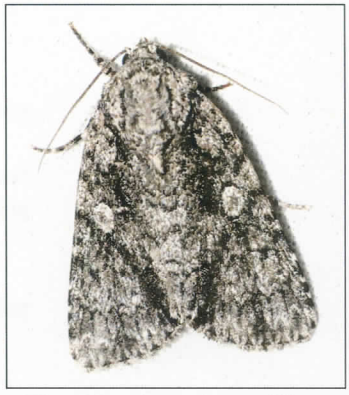

Fig. 28. ***Acronicta afflicta*** **(Noctuidae) (MONA 9254), Rock Hill Preserve, 28 April 2017.**

Fig. 29. ***Polygrammate hebraeicum*** **(Noctuidae) (MONA 9285), Blue Springs Recreational Area, 29 April 2017.**

Fig. 30. ***Balsa labecula*** **(Noctuidae) (MONA 9664), Rock Hill Preserve, 28 April 2017.**

Figure credits: Fig. 1: Florida Natural Areas Inventory [http://www.fnai.org/webmaps/ConLandsMap/]. **Figs. 2, 3, 4, 7, 13, 14, 15, 16, 22, 30:** J. E. Hayden. **Figs. 5, 6, 8, 9, 12, 19, 20, 21, 24, 26:** J. T. Vargo. **Figs. 10, 23, 25, 27, 28:** B. Boothe. **Figs. 11, 17, 18, 29:** T. A. Lott.

TABLE 1. MOTH SPECIES RECORDED FROM ROCK HILL PRESERVE AND APALACHEE WILDLIFE MANAGEMENT AREA, FLORIDA, 28 APRIL – 1 MAY 2017.

*Moths of North America Number.
**Listed foodplants reflect the entire geographical range of each moth species. Some of these foodplants do not occur naturally in northwestern Florida.

MONA NO.*	MOTH SPECIES	ROCK HILL	APALACHEE	LARVAL FOOD SOURCES**
ERIOCRANIIDAE:				
003	*Dyseriocrania griseocapitella*	X		*Castanea, Quercus*
TINEIDAE:				
333	*Amydria dyarella*	X		detritus
335	*Amydria margoriell*	X		detritus
394	*Tinea carnariella*	X		detritus?
422	*Eccritothrix trimaculella*	X		detritus
ACROLOPHIDAE:				
366	*Acrolophus mortipennella*		X	grasses
367.1	*Acrolophus mycetophagus*		X	bracket fungi
373	*Acrolophus popeanella*		X	grasses
PSYCHIDAE:				
442	*Cryptothelea gloverii*	X	X	polyphagous
OECOPHORIDE:				
957	*Psilocorsis reflexella*	X		polyphagous (trees)
1015	*Antaeotricha osseella*		X	*Quercus*
1019	*Antaeotricha humilis*	X		*Quercus*
1024	*Antaeotricha vestalis*	X	X	unknown
	Antaeotricha sp.		X	unknown
1034	*Inga sparsiciliella*	X	X	unknown
1035	*Inga cretacea*	X		unknown
1046	*Epicallima argenticinctella*	X	X	*Ulmus,* lichens?
ELACHISTIDAE:				
1124	*Elachista cucullata*	X		*Carex*
	Elachista sp.		X	unknown
GLYPHIDOCERIDAE:				
1139	*Glyphidocera lactiflosella*		X	unknown
AUTOSTICHIDAE:				
1144	*Gerdana caritella*	X		detritus
BLASTOBASIDAE:				
1175	*Holcocera chalcofrontella*	X		*Malus, Rhus*
1221	*Holcocera immaculella*	X		*Pinus, Picea*
	Species 1	X	X	unknown
	Species 2	X	X	unknown

MONA NO.*	MOTH SPECIES	ROCK HILL	APALACHEE	LARVAL FOOD SOURCES**
COLEOPHORIDAE:				
1396.1	*Coleophora xyridella*	X		unknown
	Coleophora sp.		X	unknown
1422	*Homaledra sabalella*	X		*Sabal palmetto*
MOMPHIDAE:				
1443	*Mompha eloisella*	X		*Oenothera* (stem borer)
GELECHIIDAE:				
1740	*Aristotelia intermediella*	X		unknown
1756	*Aristotelia pudibundella*		X	*Malus sylvestris*
1761	*Aristotelia roseosuffusella*		X	*Trifolium*
1762	*Aristotelia rubidella*	X	X	*Quercus*
1766	*Glauce pectenalaeella*		X	unknown
1928	*Deltophora sella*	X	X	unknown
2187	*Aroga compositella*	X	X	unknown
2211	*Polyhymno luteostrigella*		X	*Chamaecrista fasciculata*
2229	*Battaristis vittella*	X	X	pines
2229.1	*Battaristis* n. sp.	X		unknown
2234	*Anacampsis coverdalella*	X		unknown
2274	*Dichomeris bipunctella*		X	*Comptonia peregrina*
2283	*Dichomeris punctidiscella*	X		unknown
2287	*Dichomeris ventrella*	X		polyphagous (trees)
2293	*Dichomeris costarufoella*	X		*Rudbeckia*
2302.4	*Dichomeris aglaia*		X	*Eupatorium capillifolium*
2310.1	*Dichomeris kimballi*		X	unknown
	Gelechiid sp. 1		X	unknown
	Gelechiid sp. 2		X	unknown
	Gelechiid sp. 3		X	unknown
GLYPHIPTERIGIDAE:				
2346	*Diploschizia impigritella*		X	*Cyperus* (stem borer)
URODIDAE:				
2415	*Urodus parvula*	X		polyphagous
YPONOMEUTIDAE:				
2431	*Zelleria retiniella*		X	unknown
CHOREUTIDAE:				
2649	*Tebenna carduiella*		X	*Carduus, Cirsium*
COSSIDAE:				
2671	*Givira francesca*		X	pines
2674	*Cossula magnifica*	X		mainly *Quercus* & *Carya* (wood borer)
TORTRICIDAE:				
2703	*Episimus tyrius*		X	polyphagous (trees)
2706	*Bactra furfurana*	X		*Juncus, Scirpus*
2750	*Zomaria interruptolineana*	X		polyphagous (shrubs)
2776	*Olethreutes furfuranum*		X	*Rubus*
2828	*Olethreutes griseoalbana*		X	unknown
2829	*Olethreutes osmundana*	X	X	*Pteridium, Ambrosia, Osmunda*
2882	*Rhyacionia frustrana*	X		pines

MONA NO.*	MOTH SPECIES	ROCK HILL	APALACHEE	LARVAL FOOD SOURCES**
2898	*Retinia gemistrigulana*		X	*Pinus*
2907	*Strepsicrates smithiana*	X	X	*Acer, Comptonia, Myrica, Psidium*
3009	*Eucosma robinsonana*	X	X	unknown
3079	*Eucosma palabundana*	X		unknown
3142	*Eucosma cataclystiana*	X	X	*Ambrosia, Euthamia, Solidago*
3173	*Epiblema abruptana*	X	X	unknown
3190	*Epiblema desertana*		X	*Solidago*
3218	*Sonia constrictana*	X	X	unknown
3235	*Proteoteras moffatiana*	X		*Acer*
3423	*Larisa subsolana*		X	*Carya illinoinensis*
3486	*Cydia toreuta*	X		pines
3488	*Cydia anaranjada*	X		*Pinus,* incl. seeds
3495	*Gymnandrosoma punctidiscanum*	X		*Quercus rubra, Robinia*
3623	*Argyrotaenia quercifoliana*		X	polyphagous
3631	*Choristoneura obsoletana*		X	polyphagous
3633	*Choristoneura parallela*		X	polyphagous
3635	*Choristoneura rosaceana*	X	X	polyphagous
3656	*Archips georgiana*		X	*Quercus laevis, Vaccinium*
3688	*Clepsis peritana*	X	X	polyphagous
3695	*Sparganothis sulfureana*	X	X	polyphagous
3702.5	*Sparganothis niteolinea*		X	unknown
3704	*Sparganothis distincta*	X	X	*Solidago sempervirens*
3720	*Cenopis reticulatana*		X	polyphagous
3731	*Sparganothis lentiginosana*		X	unknown
3743	*Platynota exasperatana*		X	unknown
3755	*Aethes baloghi*		X	unknown
3764	*Eugnosta sartana*	X	X	unknown
3796	*Henricus contrastanus*	X		unknown
3859	[*Cochylina*-no genus] *glaucofuscana*		X	unknown
	Paralobesia sp.		X	unknown
MEGALOPYGIDAE:				
4647	*Megalopyge opercularis*		X	polyphagous
LIMACODIDAE:				
4657	*Heterogenea shurtleffi*	X		polyphagous (trees)
4665	*Lithacodes fasciola*	X	X	polyphagous
4668	*Apoda rectilinea*	X	X	unknown
4671	*Prolimacodes badia*	X	X	polyphagous
4675	*Isochaetes beutenmuelleri*		X	*Quercus palustris, Fagus*
4679	*Natada nasoni*		X	polyphagous (trees)
4685	*Adoneta spinuloides*	X		polyphagous
4700	*Acharia stimulea*	X		polyphagous
CRAMBIDAE:				
4739	*Eudonia heterosalis*	X		unknown
4746	*Chrysendeton imitabilis*	X		unknown
4746.1	*Chrysendeton nigrescens*	X	X	unknown
4751	*Elophila gyralis*		X	*Nymphaea, Nuphar*
4755	*Elophila obliteralis*	X	X	Lemnaceae, Nymphaeaceae, *Potamogeton*
4759	*Parapoynx maculalis*		X	*Nymphaea, Nuphar, Brasenia*
4763	*Parapoynx seminealis*		X	*Nymphoides aquatica*

MONA NO.*	MOTH SPECIES	ROCK HILL	APALACHEE	LARVAL FOOD SOURCES**
4764	*Parapoynx allionealis*	X	X	*Myriophyllum, Eleocharis*, etc.
4785	*Eoparargyractis irroratalis*	X	X	unknown (algae?)
4787	*Eoparargyractis plevie*	X		*Isoetes, Lobelia*
4796	*Microtheoris ophionalis*	X		unknown
4870	*Glaphyria sequistrialis*	X	X	*Quercus virginiana*
4879	*Xanthophysa psychialis*	X	X	unknown
4889	*Dicymolomia julianalis*		X	*Typha*
4946	*Ostrinia penitalis*		X	*Nuphar, Polygonum, Nelumbo*
5049	*Pyrausta phoenicealis*		X	*Hyptis capitata, Mesosphaerum*
5060	*Pyrausta subsequalis*	X		*Cirsium*
5117	*Loxostegopsis merrickalis*	X	X	unknown
5151	*Samea multiplicalis*		X	*Azolla, Eichhornia, Pistia, Salvinia*
5159	*Desmia funeralis*	X		*Cercis, Oenothera, Vitis*
5172	*Diasemiodes janassialis*		X	unknown
5176	*Anageshna primordialis*	X	X	*Rhapis excelsa* (roots)
5177	*Apogeshna stenialis*	X	X	unknown
5292	*Conchylodes ovulalis*		X	*Platanus*
5306	*Leptosteges vestaliella*		X	unknown
5310	*Rupela segrega*		X	unknown
5311	*Rupela tinctella*		X	unknown
5364	*Crambus multilinellus*	X		grasses
5369	*Crambus quinquareatus*	X		grasses
5372	*Crambus satrapellus*	X	X	grasses
5381	*Neodactria caliginosellus*	X	X	grasses, *Zea mays* (roots)
	Neodactria sp.		X	unknown
5393	*Raphiptera argillaceellus*	X	X	grasses
5420	*Microcrambus elegans*	X	X	grasses
5425	*Microcrambus matheri*	X		grasses
5435	*Fissicrambus mutabilis*	X		grasses
5460	*Argyria nummulalis*	X		grasses
5463	*Argyria lacteella*	X	X	grasses
5464	*Urola nivalis*	X		grasses
5471	*Chilo erianthalis*		X	grasses
5482	*Haimbachia squamulella*	X		unknown
5492	*Eoreuma densella*	X		unknown
5500	*Xubida panalope*	X		unknown
PYRALIDAE:				
5530	*Hypsopygia binodulalis*	X		unknown
5533	*Hypsopygia olinalis*	X	X	*Quercus*
5538	*Parachma ochracealis*	X	X	unknown
5579	*Macalla zelleri*		X	unknown
5595	*Pococera robustella*	X		pines
5597	*Pococera melanogrammos*	X	X	*Pinus elliottii*
5606	*Pococera asperatella*	X		*Quercus, Myrica*
5619	*Pococera baptisiella*	X		*Baptisia*
5623	*Achroia grisella*	X		detritus, sugar sources
5638	*Cacotherapia unicoloralis*	X		unknown
5653	*Acrobasis vaccinii*		X	*Vaccinium, Gaylussacia*
5657	*Acrobasis minimella*		X	*Quercus*
5704	*Anabasis ochrodesma*	X		*Cassia, Lysiloma*

MONA NO.*	MOTH SPECIES	ROCK HILL	APALACHEE	LARVAL FOOD SOURCES**
5744	*Etiella zinckenella*	X		polyphagous (seeds in pods)
5745	*Glyptocera consobrinella*		X	*Acer, Viburnum*
5774	*Salebriaria annulosella*		X	unknown
5779.1	*Quasisalebria atratella*	X		unknown
5789	*Sciota subfuscella*	X	X	*Rhus, Robinia*
5809	*Tulsa finitella*	X	X	*Vaccinium*
5819	*Actrix dissimulatrix*	X		*Nyssa sylvatica*
5853	*Dioryctria amatella*	X	X	*Pinus* (cones)
5913	*Macrorrhinia endonephele*		X	unknown
5919	*Honora mellinella*		X	*Palafoxia*
5929	*Diviana eudoreella*		X	unknown
5970	*Melitara prodenialis*		X	*Opuntia*
5995	*Euzophera semifuneralis*		X	polyphagous
5999	*Eulogia ochrifrontella*		X	*Carya illinoinensis, Malus pumila, Quercus*
6001	*Ephestiodes infimella*	X	X	*Ambrosia* (seeds), *Prunus serotina*
6005.1	*Moodna pallidostrinella*		X	*Pinus echinata*
6028	*Tampa dimediatella*	X	X	unknown
6037	*Cabnia myronella*	X		unknown
6049	*Peoria roseotinctella*	X		unknown
6053	*Peoria approximella*	X	X	unknown
6068	*Homosassa ella*		X	unknown
THYRIDIDAE:				
6077	*Pseudothyris sepulchralis*	X		*Smilax*
6085	*Meskea dyspteraria*	X		galls on *Hibiscus* & *Malvaviscus*
PTEROPHORIDAE:				
6098	*Buckleria parvulus*	X		*Drosera*
6212	*Hellinsia kellicottii*		X	*Solidago* (shoot borer)
6226	*Hellinsia unicolor*	X		*Eupatorium*
GEOMETRIDAE:				
6314	*Macaria varadaria*		X	*Baccharis*
6335	*Macaria aequiferaria*	X	X	unknown
6336	*Macaria distribuaria*	X		*Pinus virginiana*
6337	*Macaria sanfordi*	X		*Pinus clausa*
6339	*Macaria transitaria*	X		*Pinus*
6341	*Macaria bicolorata*	X		*Pinus, Tsuga, Vaccinium*
6405	*Digrammia gnophosaria*		X	*Salix*
6443	*Glenoides texanaria*	X		unknown
6485	*Tornos cinctarius*		X	unknown
6486	*Tornos scolopacinaria*	X		*Aster, Coreopsis*
6586	*Iridopsis defectaria*		X	polyphagous (trees)
6590	*Anavitrinella pampinaria*	X		polyphagous
6654	*Hypagyrtis unipunctata*	X		polyphagous (trees)
6667	*Lomographa vestaliata*	X		polyphagous (trees)
6711	*Ilexia intractata*	X	X	unknown
6721	*Lytrosis sinuosa*	X		unknown
6763	*Phaeoura quernaria*		X	polyphagous (trees)
6885	*Besma quercivoraria*	X		polyphagous (trees)
6908	*Nepytia semiclusaria*	X		*Abies, Larix, Picea, Pinus, Tsuga*
6941	*Eusarca confusaria*	X		*Aster, Solidago, Taraxacum, Trifolium*

MONA NO.*	MOTH SPECIES	ROCK HILL	APALACHEE	LARVAL FOOD SOURCES**
6966	*Eutrapela clemataria*	X	X	polyphagous
7010	*Nematocampa resistaria*	X	X	polyphagous
7028	*Nemoria extremaria*	X		unknown
7029	*Nemoria elfa*	X		*Taxodium distichum*
7033	*Nemoria lixaria*		X	*Quercus*
7046	*Nemoria bistriaria*	X		*Betula nigra, Juglans nigra, Quercus*
7059	*Synchlora frondaria*		X	polyphagous (shrubs)
7071	*Chlorochlamys chloroleucaria*		X	polyphagous (shrubs)
7114	*Idaea demissaria*	X	X	unknown
7115	*Idaea eremiata*	X		dead leaves
7120	*Idaea violacearia*	X	X	unknown
7121	*Idaea ostentaria*	X		unknown
7122	*Idaea tacturata*	X		*Trifolium*
7149	*Scopula lautaria*	X	X	*Trifolium*
7159	*Scopula limboundat*	X		polyphagous
7177	*Leptostales laevitaria*		X	polyphagous
7181	*Lophosis labeculata*	X		unknown
7441	*Eubaphe meridiana*		X	unknown
7474	*Eupithecia miserulata*	X		polyphagous
7648	*Dyspteris abortivaria*	X		*Parthenocissus quinquefolia, Prunus, Vitis*
MIMALLONIDAE:				
7659	*Lacosoma chiridota*	X		*Quercus*
LASIOCAMPIDAE:				
7674	*Tolype notialis*	X	X	*Pinus*
7683	*Artace cribrarius*	X	X	*Quercus, Prunus, Rosa*
7698	*Malacosoma disstria*	X		polyphagous
7701	*Malacosoma americana*	X		polyphagous
SATURNIIDAE:				
7708	*Citheronia sepulcralis*	X		*Pinus*
7715	*Dryocampa rubicunda*	X		polyphagous (esp. *Acer* & *Quercus*)
7746	*Automeris io*	X	X	polyphagous
7757	*Antheraea polyphemus*	X		polyphagous
SPHINGIDAE:				
7775	*Manduca sexta*		X	Solanaceae
7778	*Manduca rustica*		X	polyphagous (shrubs)
7816	*Lapara coniferarum*		X	*Pinus*
7865	*Eumorpha fasciatus*		X	polyphagous (shrubs)
7885	*Darapsa myron*	X		vines, creepers
7890	*Xylophanes tersa*	X		polyphagous (shrubs)
NOTODONTIDAE:				
7917	*Hyperaeschra georgica*		X	*Fraxinus, Prunus, Quercus*
7920	*Peridea angulosa*		X	*Quercus, Carya illinoinensis*
7937	*Furcula cinerea*		X	*Populus, Salix*
7942	*Cerura scitiscripta*	X		polyphagous (trees)
7951	*Symmerista albifrons*	X	X	polyphagous
7975	*Macrurocampa marthesia*	X		polyphagous
7977	*Heterocampa astarte*	X	X	*Quercus*
7983	*Heterocampa obliqua*	X	X	*Quercus*
7990	*Heterocampa umbrata*		X	polyphagous (trees)
7994	*Heterocampa guttivitta*	X	X	polyphagous (trees)

MONA NO.*	MOTH SPECIES	ROCK HILL	APALACHEE	LARVAL FOOD SOURCES**
8005	*Schizura ipomoeae*		X	polyphagous
8017	*Oligocentria lignicolor*		X	*Betula, Fagus, Quercus*
8026	*Hyparpax perophoroides*	X		*Quercus*
EREBIDAE: ARCTIINAE:				
8045	*Crambidia lithosioides*		X	lichens
8067	*Cisthene plumbea*	X	X	lichens
8071	*Cisthene subjecta*		X	lichens
8090	*Hypoprepia fucosa*	X	X	lichens, mosses
8114	*Virbia laeta*		X	*Plantago, Taraxacum*
8140	*Hyphantria cunea*		X	polyphagous
8146	*Hypercompe scribonia*	X		polyphagous
8169	*Apantesis phalerata*		X	polyphagous
8198	*Grammia doris*	X		*Lactuca, Taraxacum*
8203	*Halysidota tessellaris*	X		polyphagous (trees)
8255	*Pygarctia abdominalis*	X	X	unknown
8267	*Cisseps fulvicollis*		X	grasses, sedges
EREBIDAE: LYMANTRIINAE:				
8298	*Dasychira meridionalis*		X	*Quercus*
8307	*Dasychira manto*	X		*Abies, Picea, Pinus*
8316	*Orgyia leucostigma*	X		polyphagous
EREBIDAE: HERMINIINAE:				
8323	*Idia aemula*	X		mainly dead leaves
8326	*Idia rotundalis*	X	X	fungi, dead leaves
8334	*Idia lubricalis*	X		fungi, grasses, dead leaves, lichens
	Zanclognatha nr. *minoralis* sp. 1		X	unknown
8357.1	*Macrochilo hypocritalis*	X		unknown
8376	*Hypenula cacuminalis*		X	detritus?
8385	*Renia fraternalis*		X	detritus
8398	*Palthis asopialis*		X	polyphagous
8400	*Redectis pygmaea*		X	unknown
8431	*Schrankia macula*	X		bracket fungi
EREBIDAE: PANGRAPTINAE:				
8490	*Pangrapta decoralis*	X		*Vaccinium*
EREBIDAE: BOLETOBIINAE:				
8481	*Phytometra rhodarialis* complex	X		*Polygala*
8499	*Metalectra discalis*	X		fungi
8500	*Metalectra quadrisignata*	X		fungi
8502	*Metalectra tantillus*	X		dead bark, fungi?
9035	*Hyperstrotia nana*	X		unknown
9039	*Hyperstrotia flaviguttata*	X	X	*Quercus*
EREBIDAE: SCOLECOCAMPINAE:				
8437	*Ablemma brimleyana*	X		algae, lichens?
8509	*Arugisa lutea*	X	X	*Poa pratensis*
8514	*Scolecocampa liburna*	X		polyphagous (esp. dead wood)
EREBDAE: EULEPIDOTINAE:				
8525	*Phyprosopus callitrichoides*	X		*Smilax, Linaria*
8587	*Panopoda rufimarga*	X	X	*Betula, Quercus*
8589	*Panopoda repanda*	X		*Quercus virginiana*

MONA NO.*	MOTH SPECIES	ROCK HILL	APALACHEE	LARVAL FOOD SOURCES**
EREBIDAE: HYPOCALINAE:				
8528	*Hypsoropha hormos*	X		polyphagous (shrubs)
EREBIDAE: CALPINAE:				
8534	*Plusiodonta compressipalpis*	X		*Menispermum canadense*
EREBIDAE: EREBINAE:				
8585.3	*Epidromia rotundata*	X	X	unknown
8651	*Lesmone detrahens*		X	*Cassia*
8666	*Metria amella*	X	X	*Quercus*
8683	*Pseudanthracia coracias*		X	*Quercus*
8694	*Zale aeruginosa*	X		*Cornus alternifolia, Quercus*
8733	*Caenurgia chloropha*	X	X	*Vicia*
8744	*Mocis marcida*	X	X	grasses
8746	*Mocis disseverans*	X		Gramineae
8750	*Ptichodis herbarum*	X	X	*Lespedeza*
8751	*Ptichodis bistrigata*	X		unknown
8759	*Argyrostrotis flavistriaria*	X		*Scutellaria*
8760	*Argyrostrotis sylvarum*		X	*Lyonia fruticosa*
8765	*Doryodes bistrialis*	X		*Spartina*
8801	*Catocala ilia*		X	*Quercus*
8851	*Catocala coccinata*		X	*Quercus*
8857	*Catocala ultronia*		X	*Prunus, Malus pumila*
8864	*Catocala grynea*		X	polyphagous (trees)
8876	*Catocala micronympha*	X		*Quercus*
8877	*Catocala connubialis*		X	*Quercus*
9819	*Amolita obliqua*	X	X	grasses
EUTELIIDAE:				
8955	*Marathyssa inficita*	X	X	*Rhus*
8959	*Paectes pygmaea*		X	*Liquidambar styraciflua*
NOLIDAE:				
8983.2	*Meganola spodia*		X	*Quercus*
8991	*Nola cereella*		X	Gramineae, Cyperaceae
NOCTUIDAE: CYDOSIINAE:				
8999	*Cydosia aurivitta*	X		unknown
NOCTUIDAE: EUSTROTIINAE:				
9003.1	*Tripudia rectangula*		X	*Ruellia* (seeds in pods)
9044	*Marimatha nigrofimbria*	X	X	*Digitaria ischaemum, Ipomoea sagittata*
NOCTUIDAE: ACONTIINAE:				
9083	*Ponometia parvula*	X	X	unknown
9085	*Ponometia semiflava*	X	X	Compositae
9090	*Ponometia candefacta*		X	*Ambrosia, Arctium, Aster*
9102	*Ponometia fasciatella*	X		unknown
9127	*Spragueia leo*	X		*Convolvulus*
NOCTUIDAE: PANTHEINAE:				
9182	*Panthea furcilla*	X		*Pinus, Larix, Picea*
9189	*Charadra deridens*	X	X	polyphagous (trees)
NOCTUDAE: RAPHIINAE:				
9192	*Raphia abrupta*		X	*Populus, Salix*

MONA NO.*	MOTH SPECIES	ROCK HILL	APALACHEE	LARVAL FOOD SOURCES**
NOCTUIDAE: BALSINAE:				
9664	*Balsa labecula*	X		*Aronia, Crataegus, Amelanchier arborea*
NOCTUDAE: ACRONICTINAE:				
9211	*Acronicta tritona*	X		*Vaccinium, Rhododendron*
9219	*Acronicta connecta*		X	*Salix*
9229	*Acronicta hasta*	X		*Prunus americana*
9238	*Acronicta lobeliae*		X	*Prunus serotina, Quercus*
9254	*Acronicta afflicta*	X		*Juglans nigra, Quercus*
9255	*Acronicta brumosa*	X		polyphagous
9272	*Acronicta oblinita*		X	polyphagous
9285	*Polygrammate hebraeicum*	X	X	*Nyssa sylvatica*
9286	*Harrisimemna trisignata*		X	polyphagous (shrubs)
NOCTUIDAE: AMPHIPYRINAE:				
9449	*Capsula oblonga*		X	*Typha, Scirpus*
9725	*Azenia obtusa*		X	unknown
NOCTUIDAE: ERIOPINAE:				
9632	*Callopistria granitosa*		X	ferns
NOCTUIDAE: NOCTUINAE:				
9522	*Iodopepla u-album*	X	X	*Hypericum*
9619	*Phosphila miselioides*	X		*Smilax, Verbena*
9629	*Fagitana littera*		X	*Dryopteris thelypteris*
9669	*Spodoptera ornithogalli*	X		polyphagous
9671	*Spodoptera dolichos*	X		polyphagous
9688	*Galgula partita*	X		*Oxalis*
9718	*Emarginea percara*		X	*Phoradendron*
10413	*Lacinipolia explicata*	X		various forbs, *Trifolium, Lactuca*
10439	*Leucania extincta*	X		grasses
10640	*Xanthopastis regnatrix*	X	X	Amaryllidaceae, Liliaceae, Araceae
10661	*Agrotis malefida*	X		polyphagous
10903	*Anicla illapsa*	X		grasses, sedges

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REPORTS OF STATE COORDINATORS

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Vitaly Charny sends in the following report:

Butterfly List 2016
Oak Mountain SP, Shelby Co., Alabama

Epargyreus clarus	Silver Spotted Skipper
Urbanus proteus	Long Tailed Skipper
Achalarus lyciades	Hoary Edge
Thorybes bathyllus	Southern Cloudy Wing
Thorybes pylades	Northern Cloudy Wing
Erynnis brizo	Sleepy Dusky Wing
Erynnis juvenalis	Juvenal's Dusky Wing
Erynnis horatius	Horace Dusky Wing
Erynnis zarucco	Zarucco Dusky Wing
Erynnis baptisiae	Wild Indigo Dusky Wing
Pyrgus communis	Common Checkered Skipper
Lerema accius	Clouded Skipper
Ancyloxypha numitor	Least Skipper
Copaeodes minima	Southern Skipperling
Hylephila phyleus	Fiery Skipper
Hesperia metea	Cobweb Skipper
Polites themistocles	Tawny-edged Skipper
Polites origenes	Crossline Skipper
Wallengrenia otho	Southern Broken Dash
Pompeius verna	Little Glass Wing
Poanes zabulon	Zabulon Skipper
Euphyes vestris	Dun Skipper
Amblyscirtes hegon	Pepper and Salt Skipper
Amblyscirtes aesculapius	Lace-winged Roadside Skipper
Amblyscirtes vialis	Common Roadside Skipper
Lerodea eufala	Eufala Skipper
Panoquina ocola	Ocola (Long Wing)
Battus philenor	Pipe-vine Swallowtail
Eurytides marcellus	Zebra Swallowtail
Papilio polyxenes	Black Swallowtail
Papilio glaucus	Tiger Swallowtail
Papilio troilus	Spicebush Swallowtail
Papilio cresphontes	Giant Swallowtail
Pieris rapae	Cabbage Butterfly
Anthocharis midea	Falcate Orange Tip
Colias philodice	Clouded Sulphur
Colias eurytheme	Orange Sulphur (Alfalfa butterfly)
Zerene cesonia	Southern Dogface
Phoebis sennae	Cloudless Sulphur
Eurema nicippe	Sleepy Orange
Eurema lisa	Little Yellow
Feniseca tarquinius	Harvester
Atlides halesus	Great Purple Hairstreak

Mitoura grynea	Juniper Hairstreak
Callophrys henrici	Henry's Elfin
Satyrium titus	Coral Hairstreak
Satyrium calanus	Banded Hairstreak
Satyrium kingi	King's Hairstreak
Satyrium liparops	Striped Hairstreak
Calycopis cecrops	Red-banded Hairstreak
Strymon melinus	Gray Hairstreak
Parrhasius m-album	White M Hairstreak
Everes comyntas	Eastern Tailed Blue
Celastrina ladon	Spring Azure
Celastrina neglecta	Summer Azure
Libytheana carinenta	American Snout
Danaus plexippus	Monarch
Agraulis vanillae	Gulf Fritillary
Euptoieta claudia	Variegated Fritillary
Phyciodes tharos	Pearl Crescent
Junonia coenia	Buckeye
Polygonia interrogationis	Question Mark
Polygonia comma	Eastern Comma
Nymphalis antiopa	Morning Cloak
Vanessa atalanta	Red Admiral
Vanessa virginiensis	American Lady
Limenitis arthemis astyanax	Red-spotted Purple
Limenitis archippus	Viceroy
Anaea andria	Goatweed Leafwing
Asterocampa celtis	Hackberry Butterfly
Enodia anthedon	Northern Pearly-eye
Satyrodes appalachia	Appalachian Brown
Cyllopsis gemma	Gemmed Satyr
Hermeuptychia sosybius	Carolina Satyr
Megisto cymela	Little Wood Satyr
Cercyonis pegala	Common Wood Nymph

Arkansas: Mack Shotts, 514 W. Main Street, Paragould, AR 72450, E-Mail: cshotts@grnco.net

Florida: Charles V. Covell Jr., 207 NE 9th Ave, Gainesville, FL 32601, E-Mail: covell@louisville.edu

Following are Charlie Covell's records for Gainesville, Alachua County: Overall very rainy summer, some storms severe. Butterfly numbers improved into August after a dry spring.

Epargyreus clarus, Aug. 8
Erynnis horatius, May 19, 20, 27, 29, July 14, 21, 26, Aug. 5, 9, 11
Urbanus proteus, July 19, 20, 26, 27, Aug. 3, 4, 8, 9, 11, 15
Urbanus dorantes, July 5, 17, 18, 26, 27, Aug. 4
Copaeodes minima, May 17
Polites themistocles, May 17
Hylephila phyleus, May 17, 20, 26, 27, 29, 21, June 24, July 8, 12, 22, Aug. 11

Euphyes vestris, May 17
Asbolis capucinus, Aug. 15
Battus polydamas, July 5
Papilio polyxenes asterius, May 20, 27, July 19
Papilio glaucus, June 24, Aug. 11
Papilio palamedes, Aug. 11
Papilio troilus, May 25, Aug. 5, 6, 12
Heraclides cresphontes, May 17, June 24, July 14, 18, 19, 20, 21, Aug. 4, 5, 9, 11
Pontia protodice, May 17, 19, 20, 27, July 8
Phoebis sennae, May 17, July 8, 14, 22, 21, 26, Aug. 5, 9, 11
Phoebis philea, July 12, 26 (both sexes), 9, 11
Abaeis nicippe, July 12, 26, Aug. 5, 11
Eurema daira, Aug. 11
Pyrasitia lisa, July 22
Strymon melinus, Aug. 4
Leptotes cassius, May 25, June 5, 18, July 7, 18
Hemiargus ceraunus, May 17, 19, 20, 27, 21, July 17
Libytheana carrinenta, May 27, July 8
Limenitis archippus, July 12, 14
Limenitis arthemis astyanax, Aug. 5, 9
Junonia coenia, May 17, 19, 26, 27, 31, July 8, 12, 22, 26
Anartia jatrophae, July 12, Aug. 3
Asterocampa clyton, Aug. 9
Agraulis vanillae, May 25, 29, 31, June 24, July 5, 8, 12, 14, 18, 19, 20, 21, 22, 26, 27, Aug. 3, 4, 5, 6, 9, 11, 12, 15
Heliconius charithonia, May 19, 25, 27, 31, June 5, 18, July 7, 8, 19, 21, 26, Aug. 5, 6, 9, 11. 12, 15
Danaus plexippus, May 27, June 5, July 12, 13, 20, 21, 27, Aug. 4, 6, 9, 11

Moths: *Agrius cingulatus*, Sphingidae, July 17 on building window in Gainesville
Automeris io male, Saturniidae, Gainesville, July (no day date)

As always, thanks to those who contributed. Cheers, Charlie

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Tom Neal sends in the following three reports:

First report: Random Backyard Sightings (1705 NW 23rd Street, Gainesville, FL 32605) (Tom Neal).

PYRALIDAE:
5970.1 *Cactoblastis cactorum* (Berg) 24- IV-2017 While previously remaining primarily coastal, this has now appeared locally and has turned the prickly pears in my neighborhood to mush. A true ecological disaster if it crosses the Mississippi.

GEOMETRIDAE:
6443 *Glenoides texanaria* (Hulst) 22-II-2017
6763 *Phaeoura quernaria* (Smith) 20-!V-2017 This is quite late for this area.

SPHINGIDAE:
7887 *Xylophanes pluto* (F.) 20-IV-2017, 21-V-2017 Long a south Florida specialty, this has increasingly turned up in the Gainesville area in recent years. This is likely due to the widespread ornamental planting of firebush, *Hamelia patens,* a favored food plant originally native to the southern half of the state.

NOCTUIDAE:
8137 *Spilosoma virginica* (F.) 22-III-2017
8599 *Melipotis fasciolaris* (Hubner) 28-II-2017
8697 *Zale minerea* (Gn.) 24-IV-2017
9249 *Acronicta increta* (Morrison) 29-III-2017

9522 *Iodopepla u-album* (Gn.) 12-V-2017
9526 *Bellura densa* (Wlk.) 22-III-2017
9675 *Elaphria fusimacula* (Grote) 20-IV-2017

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Second Report: Moth Survey Waccasassa Wildlife Management Area, Devil"s Hammock Area, Levy Co. FL, (24 February, 2017)(*Thomas M. Neal & Jeffrey R. Slotten).*

SESIIDAE:
2554 *Synanthedon acerni* (Clemens)

GEOMETRIDAE:
6419 *Isturgia dislocaria* (Pack.)
6713 *Episemasia solitaria* (Wlk.)
6733 *Euchlaena amoenaria* (Gn.)
7058 *Synchlora aerate* (F.)

NOCTUIDAE:
8114 *Virbia laeta* (Guerin-Meneville)
8591 *Phoberia atomaria* Hubner
8729 *Cutina aluticolor* Pogue & Ferguson
8962 *Paectes abrostoloides* (Gn.)
8970 *Baileya opthalmica* (Gn.)
9251 *Acronicta retardate* (Wlk.)
9650 *Atethis tarda* (Gn.)
9680 *Elaphria georgei* (Moore & Rawson)
10021 *Psaphida grotei* (Morrison)
10502 *Himella fidelis* (Grote)

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Third Report: Robert Godefroi & Thomas Neal send in the following report for Florida:

Moth Survey: Merritt Island, Brevard Co., Florida, Blacklight trap, hardwood/red cedar/palm hammock (21 March 2017)

COSSIDAE:
2693 *Prionoxystus robinae* (Packard)

PYRALIDAE:
5518 *Aglossa cuprina* Zeller

GEOMETRIDAE:
6659 *Phigalia denticulata* Hulst
6752 *Pero zalissaria* (Wlk.)
6763 *Phaeoura quernaria* (Smith)
7136 *Cyclophora packardi* (Prout)

NOTODONTIDAE:
7917 *Hyperaeschra georgica* (H.-S.)
7920 *Peridea angulosa* (Smith)
8005 *Schizura ipomoeae* Doubleday
8017 *Oligocentria lignicolor* (Wlk.)

NOCTUIDAE:
8121 *Virbia aurantiaca* (Hubner)
8280 *Cosmosoma myrodora* Dyar
8341 *Zanclognatha theroalis* (Wlk.)
8364 *Phalaenostola larentioides* Grote
8371 *Bleptina interior* Grote
8376 *Hypenula cacuminalis* (Wlk.)
8589 *Panapoda repanda* (Wlk.)
8591 *Phoberia atomaris* Hubner
8592 *Cissusa spadix* (Cramer)
8691 *Zale declarans* (Wlk.)
8751 *Ptichodis bistrigata* Hubner
8752 *Ptichodis basalis* (Wlk.)
9592 *Properigea tapeta* (Smith)

Georgia: James K. Adams, 346 Sunset Drive SE, Calhoun, GA 30701, E-Mail: jadams@daltonstate.edu (Please check out the GA leps website at: http://www.daltonstate.edu/galeps/).

James sends in the following report:

I apologize for the entries for "Rocky Face" and "Taylor's Ridge" in the last report. These are places I collect with frequency (see below), but I failed to include any other location information with those names. The information is more complete in this report. The contributors include James Adams (JKA or no notation), Brian Scholtens (BS), John Hyatt (JH) and Lance Durden (LD). Others are indicated with their records. Most records presented here represent new or interesting records (range extensions, unusual dates, uncommon species, county records, etc.), more complete lists for new locations/new times of year. All known new STATE and COUNTY

records are indicated, and all dates listed below are 2017 unless otherwise specified.

Brasstown Bald, Towns County, June 16-17:
Although nothing earth-shaking was taken during this outing, this is the first time in a while that I have trapped the north Georgia mountains in mid-summer, and it was nice to see a lot of the northern elements in full swing. *Macaria ulsterata* is a species I've found in Georgia only on Brasstown Bald (highest point in Georgia) to this point.
TINEIDAE: *Scardia amurensis*. **LIMACODIDAE**: *Packardia elegans*. **GEOMETRIDAE**: *Macaria ulsterata, M. fissinotata, Digrammia ocellinata, Euchlaena muzaria* (abundant and very yellow), *Caripeta divisaria, Xanthorhoe lacustrata, Cyclophora pendulinaria, Hydrelia inornata*. **EREBIDAE**: *Idia lubricans, I. laurenti, Catocala coccinata, C. blandula*. **NOCTUIDAE**: *Chrysanympha formosa, Acronicta fragilis, A. radcliffei, Morrisonia triangula*.

Dalton State College campus, Dalton, Whitfield Co. July 3:
SATURNIIDAE: *Anisota virginiensis pellucida*, males coming to a newly emerged female (around 11:30 a.m.).

Rocky Face ridgeline, just W of Dalton at crest of Dug Gap Battle Rd., Whitfield Co., July 15-16:
SPHINGIDAE: *Atreides plebeja*. **NOTODONTIDAE**: *Hyparpax aurora*. **EREBIDAE**: *Dinumma deponens*. **NOCTUIDAE**: *Acronicta laetifica, A. morula, A. noctivaga, A. lithospila, Schinia trifascia* (early), *Sideridis congermana* (COUNTY, second in STATE), *Dipterygia rozmani*.


Sideridis congermana

Carbondale, I-75 exit 326, Whitfield Co.:
SPHINGIDAE: *Manduca jasminearum*, May 26.

Calhoun, Gordon Co., 346 Sunset Drive SE (JA residence):
SATURNIIDAE: *Anisota peigleri* – female, June 19; male, July 3, both at lights. **EREBIDAE**: *Catocala miranda*, June 19. **NOCTUIDAE**: *Acronicta noctivaga*, July 3.

Taylor's Ridge, 5 mi. W of Villanow, Walker Co., May 27-28:
GEOMETRIDAE: *Trigrammia quadrinotaria*. **EREBIDAE**: *Idia scobialis, Catocala coccinata*. **NOCTUIDAE**: *Oruza albocostaliata*.

Pigeon Mountain, 8 mi. WSW of LaFayette, Walker Co., July 9:
PAPILIONIDAE: *Heraclides cresphontes*. **LYCAENIDAE**: *Callophrys gryneus* (summer brood)

Salacoa Rd. at Salacoa Creek, five miles ESE of Fairmount, Bartow Co., June 3-4:
GEOMETRIDAE: *Trigrammia quadrinotaria* (abundant). **NOTODONTIDAE**: *Peridea ferruginea*.

Louisiana: Michael Lockwood, 215 Hialeah Avenue, Houma, LA 70363, E-Mail: mikelock34@hotmail.com

Ricky Patterson sends in the following report:

19 July 2017, Natchitoches National Forest, Lane Road, east of Carpenter Prairie, Winn county, *Catocala myristica* (STATE RECORD and western range extension), *Catocala ilia, Catocala maestosa*.

Mississippi: Ricky Patterson, 400 Winona Rd., Vicksburg, MS 39180, E-Mail: rpatte42@aol.com

All records by Ricky Patterson unless otherwise indicated:

2-3 July 2017, Crawford, Lowndes county: *Catocala sappho, Catocala myristica, Catocala ilia, Catocala ultronia, Catocala insolabilis, Cercyonis pegala* near *alope, Catocala innubens, Catocala lacrymosa, Catocala ulalume*.

3 July 2017, 2.7 miles north of West Point, Clay county: *Catocala sappho, Catocala angusi*.

5 July 2017, Crawford, Lowndes county: *Catocala ilia, Catocala insolabilis, Cercyonis pegala, Catocala lacrymosa, Catocala myristica, Ascalapha odorata* (on tree trunk after tropical storm passed).

9 July 2017, Natchez Trace Parkway, mile marker 225.4, Chickasaw county: *Catocala myristica, Catocala sappho, Catocala innubens.*

10 July 2017, Crawford, Lowndes county: *Catocala robinsonii* (early), *Catocala insolabilis, Cercyonis pegala, Catocala ulalume, Catocala myristica, Catocala sappho.*

10 July 2017, US Hwy 45A, 1.4 miles north of Monroe/Clay county line, Monroe county: *Catocala sappho* (COUNTY), *Catocala angusi.*

21 July 2017, Magna Vista, Issaquena county: *Catocala carissima, Catocala amatrix, Catocala maestosa, Catocala innubens.*

25 July 2017, ENE of Troy, N of Shannon Road (CR 82), GPS vicinity of N34.126 and W -88.848, Pontotoc county: *Catocala robinsonii, Catocala ulalume, Catocala ilia, Catocala angusi, Catocala lacrymosa.*

26 July 2017, US Hwy 45A, 1.4 miles north of Monroe/Clay county line, Monroe county: *Catocala robinsonii, Catocala myristica* (COUNTY), *Catocala angusi, Catocala sappho* (late).

26 July 2017, Crawford, Lowndes county: *Catocala robinsonii, Catocala insolabilis, Catocala ulalume, Catocala myristica, Catocala sappho, Catocala lacrymosa, Catocala maestosa, Catocala ilia.*

30 July to 3 August 2017, NE of Palmetto community, N of Palmetto Road, GPS vicinity of N34.199 and W -88.790, Lee county, (Ricky Patterson and Robert Borth): *Catocala robinsonii* (incl form "missouriensis"), *Catocala luctuosa, Catocala vidua, Catocala angusi, Catocala neogama, Catocala residua* "white-fringed".

30 July to 3 August 2017, South of Pontocola Road, GPS vicinity of N34.138 and W -88.826, Lee county, (Ricky Patterson and Robert Borth): *Catocala robinsonii* (incl form "missouriensis"), *Catocala piatrix, Catocala ilia, Catocala angusi, Catocala residua* "white-fringed", *Catocala maestosa.*

30 July to 3 August 2017, Oak-Hickory forest ENE of Troy, north of Shannon Road (CR 82), GPS vicinity of N34.126 and W -88.848, Pontotoc county, (Ricky Patterson and Robert Borth): *Catocala robinsonii* (incl form "missouriensis"), *Catocala ulalume, Catocala ilia, Catocala angusi, Catocala lacrymosa, Catocala innubens, Catocala luctuosa, Catocala maestosa, Catocala vidua, Catocala insolabilis* (late), *Catocala amica, Catocala lineella, Catocala retecta* (late), *Manduca jasminearum, Caercyonis pegala* near *alope.*

1 August 2017, Crawford, Lowndes county: *Catocala robinsonii* (incl form "missouriensis"), *Catocala insolabilis, Catocala ulalume, Catocala myristica, Catocala sappho* (late), *Catocala vidua, Catocala maestosa, Catocala ilia, Catocala angusi, Catocala amica, Papilio glaucus glaucus* (yellow form female).

North Carolina: Steve Hall, North Carolina Natural Heritage Program, Div. of Parks & Recreation, 1615 MSC, Raleigh, NC 27699-1615, E-Mail: Stephen.Hall@ncmail.net

Steve sends in the following two reports for North Carolina:

The following selected moth records were submitted to the newly opened Moths of North Carolina website (http://dpr.ncparks.gov/moths/index.php). A substantial number of observers submitted records for the first time, covering a larger range of counties than has previously been done for North Carolina season summaries. In addition to the individual observations, records were also obtained from a Bioblitz conducted in Surry County and from a Moth Night conducted in Orange County. Individuals submitting records include: B. Fleming (BF), Becky Elkin (BE), Chris Hill (CH), Darryl Willis (DW), David Campbell (DC), Ed Corey (EC), F. Williams (FW), J. Brown (JB), J. Jakubowski (JJ), Jane Wyche (JW), Jim Petranka (JP), John T. Jones (JTJ), Julie Tuttle (JT), K.

Bischof (KB), Linda Thurman (LT), Mark Shields (MS), Michele Martone (MM), Mike Dunn (MD), Nancy Williamson (NW), Rebecca Lynch-Maass (RLM), S. Williams (SW), Salman Abdulali (SA), Scott Pohlman (SP), and Steve Hall (SH).

COSSIDAE:
Givira anna MAY 27, Orange, SH

GEOMETRIDAE:
Macaria promiscuata MAY 17, Surry, SH/EC (COUNTY)
Lytrosis permagnaria MAY 16, Chatham, JT, the third known site for this species in Chatham County and the fourth for the eastern Piedmont
Besma endropiaria MAY 17, Surry, SH/EC (COUNTY)

MIMALLONIDAE:
Lacosoma chiridota MAY 17, Surry, SH/EC (COUNTY)
Cicinnus melsheimeri MAY 17, Surry, SH/EC, previously recorded at this site but rare within the state as a whole

BOMBYCIDAE:
Olceclostera angelica MAY 17, Surry, SH/EC (COUNTY)

SATURNIIDAE:
Eacles imperialis JUL 21, Duplin, MS (COUNTY)
Citheronia regalis JUN 20, Wake, MM
Anisota senatoria JUN 24, Orange, JT/MD/SH; JUL 2, Orange, JTJ, first records from Orange County since Brimley recorded it in 1938
Antheraea polyphemus JUL 2, Moore, NW; JUL 29, Dare, JB
Samia cynthia JUL 26, Guilford, DC (STATE), a larva was found in a thicket of Ailanthus growing along an abandoned railroad
Hyalophora cecropia MAY 16, Cabarrus, LT; JUN 1, Buncombe, RLM (both COUNTY)

SPHINGIDAE:
Ceratomia undulosa JUN 5, Granville, SP (COUNTY)
Isoparce cupressi JUL 14, Gates, FW/SW, larva photographerd on Cypress (COUNTY)
Paratrea plebeja JUL 11, Gates, FW/SW, both records for this county are based on photographs of larvae
Sphinx kalmiae JUN 15, Gates, JW (COUNTY)
Amphion floridensis JUL 4, Halifax, JJ (COUNTY)

NOTODONTIDAE:
Oligocentria semirufescens JUN 26, Gates, BJ, photograph of a larva (COUNTY)

EREBIDAE:
Haploa colona MAY 19, Carteret, MS/CH (COUNTY)
Estigmene acrea JUN 16, McDowell, KB (COUNTY)
Parahypenodes quadralis MAY 29, Cabarrus, DW, only the third record for this species from the state (COUNTY)

EUTELIIDAE:
Paectes oculatrix MAY 16, McDowell, KB (COUNTY)

NOCTUIDAE:
Chrysanympha formosa MAY 17, McDowell, KB (COUNTY)
Acronicta rubricoma JUN 24, Orange, JT/MD, larva photographed at night feeding on Celtis
Acronicta radcliffei JUN 3, McDownell, KB (COUNTY)
Callopistria mollissima JUN 24, Orange, JT/MD/SH (COUNTY)

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The following selected butterfly records were submitted by Harry LeGrand. Records are from February through May 2017. Names in parentheses are counties.

Spring 2017 was considerably warmer than normal, owing not only to a record warm February but another record warm April. Though March was slightly cooler normal, the very warm April and parts of May tended to speed up the first broods, and there were quite a few notably early records. Precipitation was normal to locally above normal, and there were some flooding events, mainly in the Coastal Plain. Overall, it was a very good spring for butterflies in the state, especially in the mountains and western Piedmont. Butterflies in the Coastal Plain, especially skippers, still seem to be reduced from several years ago, but we will likely need to wait until the summer and fall seasons to see what effect that the flooding from Hurricane Matthew last October, in addition to other flooding events, has had on the butterfly populations.

PIERIDAE:

Pontia protodice, gratifyingly there was a handful of sightings this season. An excellent count was eight at a former stronghold south of Raleigh (Wake), as seen by Harry LeGrand on May 28. Notable in the mountains, where uncertain as a breeder, was the photographing of three individuals at separate sites in Watauga County by Teddy Wilcox. He noted singles on May 8, 11, and 18.

Euchloe olympia, Gail Lankford and others visited the state's primary locale in Madison County, and found six on March 29 and four on April 10. The previous early state date was April 1.

Pyrisitia lisa, hardly ever seen in winter or spring, one observed by Sven Halling and Gene Schepker at Dinkins Bottoms (Yadkin) on February 20 was a first state record for that month.

LYCAENIDAE:

Feniseca tarquinius, quite unusual was one seen by Charlie Cameron in his yard in Greensboro (Guilford) on April 10. This scarce species is seldom reported from yards or gardens.

Atlides halesus, a very good find for the foothills was one seen at the Green River Game Land (Polk) on April 16 by Miles Buddy.

Satyrium favonius, this is the earliest flying Satyrium species in the South, and thankfully it was reported twice this season. At a usual site on the mainland of Ocean Isle Beach (Brunswick), Chris Talkington, Taylor Piephoff, and others saw five on May 20. Quite rare in the Piedmont was one seen by Lori Carlson and John Jarvis at the Brumley Forest Preserve (Orange) on May 17.

Callophrys henrici, a very good find for the mountains was one noted by Gail Lankford and party in Madison County on April 10.

Callophrys niphon, the first state record prior to March was of one seen by Jim Nottke in northwestern Forsyth County on the remarkable date of February 23. Rare in the mountains was one seen by Doug Johnston in the Leicester area (Buncombe) on March 30.

Callophrys gryneus, there were many more reports than usual this spring. By far the most notable was a state record-tying tally of 26 individuals at Eno River State Park (Orange) on May 10, made by Lori Carlson, John Jarvis, and others.

Celastrina nigra, several groups of out-of-state butterfliers visited the state's best site in Graham County and were successful in photographing this scarce species. The best total was 12 seen by Mark and Holly Salvato on April 20.

Glaucopsyche lygdamus, this blue was reported at least six times, all in Buncombe, Macon, and Madison counties. Probably the most significant record was an excellent tally of ten individuals seen by Jason Love along a U.S. Forest Service road (Macon) on March 29.

NYMPHALIDAE:

Chlosyne nycteis, though this colonial species can be quite common to abundant at highly favored locales, a tally of 50 close to the eastern edge of the range in northern Anson County, along the Rocky River, was notable, as reported by Richard Stickney on May 1. A more impressive count was 90 seen by Lori Carlson and John Jarvis near the Flat River (Durham) on April 21.

Euphydryas phaeton, this rarity was seen just once this spring, by Bill McLarney, who saw one at the Needmore Game Land (Macon) on May 14.

Vanessa cardui, the only spring report was of two seen by Jason Love in his yard in Otto (Macon) on April 10.

Lethe creola, possibly the only new county record for the entire season was one of this species photographed by Mark Shields near Haywood Landing in Croatan National Forest (Jones) (COUNTY) on April 28.

Neonympha areolatus, never previously reported before May, one was state record early on April 20, as seen by Steve Moore and Jim Brock at Holly Shelter Game Land (Pender).

Neonympha mitchellii francisci, Nick Haddad and others, who are conducting life history studies of this Federally Endangered subspecies, reported at least ten individuals on May 22, at Fort Bragg Military Reservation. The taxon has still never been found off this base in the state, despite somewhat suitable habitat in nearby Sandhills Game Land and other wetlands.

HESPERIIDAE:

Autochton cellus, one of the state's great prizes for butterfliers, Ruth Young and several others observed one at a known site in Madison County on May 26.

Thorybes confusis, though not a rare species in parts of the Coastal Plain, a count of three at Holly Shelter Game Land (Pender) on April 25, as found by Steve Moore and Jim Brock, was noteworthy. In the Piedmont, where rare and poorly known, Randy Emmitt saw one at Caswell Game Land (Caswell) on May 14.

Erynnis martialis, gratifyingly this rare species was seen six times this spring, but five were at its state stronghold at Sandy Mush Game Land (Buncombe). The peak count there was five, tying a state record count, as noted by Steve Moore and Jim Brock on April 22. The former state early date of April 7 was bettered three times in 2017, with one quite early at that site on March 26, as seen by Doug Johnston. Another in adjacent Madison County was early on March 29, as found by Gail Lankford and party.

Hesperia metea, this seemingly declining species was seen only once, in the low mountains in Madison County near Paint Rock, where Don Holt and others saw one on April 10. There has been an alarming scarcity of records from the Piedmont and Sandhills in recent years, for unknown reasons, though people are looking for this skipper at previously known sites.

Poanes yehl, after several fall season sightings and photographs from a low elevation site in Madison County in recent years, the mountain region at last has a first spring season record. Ruth Young and party saw one at this site, the only one known for the state's mountain and foothill regions, on May 26. This seems to confirm a tiny resident population close to the Tennessee border.

Atrytonopsis hianna, a good count of 12 was made by Chris Talkington and party at Latta Plantation Nature Preserve (Mecklenburg) on May 6.

Atrytonopsis quinteri, as expected, all reports were from Fort Macon State Park (Carteret), where the highest count was 28 on April 20, as tallied by Steve Moore and Jim Brock.

Amblyscirtes carolina, though there were a few Coastal Plain records as usual, the only Piedmont record was of one seen by Richard Stickney on April 5 at Shocco Creek Game Land (Franklin).

Amblyscirtes reversa, the only records this season were from Holly Shelter Game Land (Pender), where the high count was three seen by Steve Moore and Jim Brock on April 25.

Amblyscirtes vialis, of the scattered records, the only ones from the Coastal Plain, where rare, were of singles noted by Paul Hart at Anderson Creek Park (Harnett) on April 8, and by Roger Shaw in the Sandhills Game Land (Richmond) on April 15.

South Carolina: Brian Scholtens, College of Charleston, Charleston, SC 29424, E-Mail: scholtensb@cofc.edu

Tennessee: John Hyatt, 233 Park Ridge Court, Kingsport, TN 37664, E-Mail: jkshyatt@centurylink.net

John sends in the following report that he collected *Lycaena phleas americana* in Kingsport, Sullivan Co., TN, ca. 1500', June 19, 2017. Thinking initially that he had a new county record but upon closer investigation he realized that he had collected this butterfly previously from the same location in June of 1977. Thus the second specimen in 40 years. However, to make the story a bit more interesting Charlie Watson (a Kiongsport resident and SLS member) saw John's post and reports that he also has 1 specimen of *Lycaena phleas americana* from June 16, 1977, from Sullivan Co. Charlie mentioned that his specimen was taken on Orange Milkweed beside Fort Henry Drive in Colonial Heights, somewhere between the I-81 exit and the road to Warriors Path. Thus a total of 3 specimens from the same location with a hiatus of 40 years to the month between the first 2 and the third.

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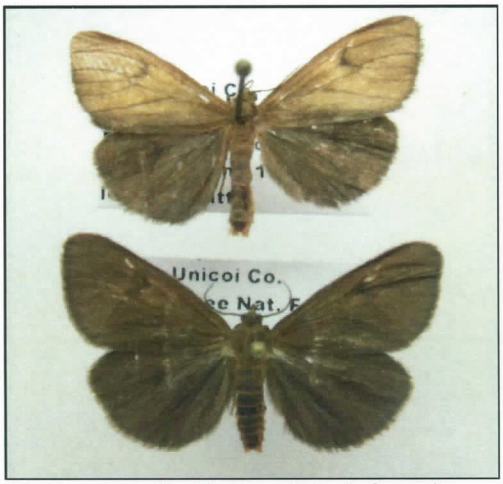
Lance Durden and John Hyatt send in the following report:

Tennessee: Unicoi Co., Cherokee National Forest, ca. 3700', 15-Jun-17, *leg.* Lance Durden and John Hyatt (at light):

Agonopteryx thelmae
Blastobasis glandulella
Synanthedon acerni
Olethreutes fasciatana
Acleris curvalana
Pandemis lamprosana
Argyrotaenia alisellana
Choristoneura fractivittata
Lithacodes fasciola
Crocidophora serratissimalis
Hahncappsia marculenta
Herpetogramma abdominalis
Aglossa cuprina
Tosale oviplagallis
Condylolomia participalis
Euzophera ostricolorella
Macaria promiscuata
Macaria signaria
Macaria pinistrobata
Macaria fissinotata
Macaria granitata
Aethalura intertexta
Hypagyrtis piniata
Lytrosis unitaria
Euchlaena serrata
Euchlaena obtusaria
Euchlaena cf. tigrinaria (high altitude form? see photo)
Euchlaena irraria
Ennomos subsignaria
Metarranthis indeclinata
Cepphis armataria
Probole nepiasaria
Plagodis serinaria
Tetracis cachexiata
Scopula inductata
Ecliptopera atricolorata
Epirrhoe alternata
Hydrellia inornata
Heterophleps refusaria
Heterophleps triguttaria
Lapara bombycoides
Datana integerrima
Symmerista caneicosta
Dasylophia thyatiroides
Heterocampa biundata
Schizura ipomoeae
Schizura leptinoides
Virbia cf. opella (light and dark forms; see photo)
Spilosoma latipennis
Lophocampa caryae
Euchaetes egle
Dasychira obliquata
Idia diminuendis
Idia scobialis
Zanclognatha cruralis
Zanclognatha protumnusalis
Zanclognatha jacchusalis
Hypena baltimoralis
Celiptera frustulum
Catocala blandula
Diachrysia aeroides
Chrysanympha formosa
Colocasia propinquilinea
Acronicta morula

Acronicta increta
Acronicta superans
Euplexia benesimilis
Phosphila turbulenta
Callopistria mollissima
Morrisonia latex
Euxoa cf. tessellata (see photo)
Noctua pronuba

Thanks to James Adams for comments on the identities of *Euchlaena cf. tigrinaria* and *Euxoa cf. tessellata.*



Virbia cf. opella **(light and dark forms) (photo by John Hyatt)**

Euxoa cf. tessellata **(photo by Lance Durden)**

Euchlaena cf. tigrinaria **(high altitude form? (photo by John Hyatt)**

Texas: Ed Knudson, 8517 Burkhart Road, Houston, TX 77055, E-Mail: eknudson@earthlink.net

Monica Krancevic submits the following report for May 11-August 10:

Lake Jackson, Brazoria County, TX Private Residence (29.04N, 95.42W)

All observations are posted at: http://www.inaturalist.org/observations/krancmm

STATE RECORDS

Family	Species	Dates	Comments
Bucculatricidae	*Bucculatrix coronatella*	16-Jul	ID:ECK
Tortricidae	*Cochylis bucera*1	6-Jul	ID:ECK

COUNTY RECORDS

Family	Species	Dates	Comments
Carposinidae	*Carposina sasakii*	28-Jun	
Cossidae	*Givira arbeloides*	15-Jun	
Crambidae	*Hellula phidilealis*	17-May	
Crambidae	*Parapoynx obscuralis*	01-Aug	
Crambidae	*Rhectocraspeda periusalis*	05-Aug	
Crambidae	*Salbia haemorrhoidalis*	01-Aug	
Erebidae	*Ascalapha odorata*	24-Jun	Known from county; never officially recorded
Erebidae	*Isogona scindens*	18-Jul	
Erebidae	*Renia adspergillus*	24-May	
Gelechiidae	*Friseria acaciella*	02-Jul	
Gelechiidae	*Sinoe chambersi*	24-Jul	
Geometridae	*Euacidalia sericearia*	17-May	
Geometridae	*Euchlaena deplanaria*	16-Jun	
Geometridae	*Eumacrodes yponomeutaria*	29-May	
Gracillariidae	*Caloptilia blandella*	15-Jul	
Momphidae	*Mompha circumscriptella*	22-Jul	
Noctuidae	*Acronicta brumosa*	17-May	
Noctuidae	*Acronicta fallax*	25-May	

COUNTY RECORDS

Family	Species	Dates	Comments
Noctuidae	*Metaponpneumata rogenhoferi*	19-May	
Noctuidae	*Spragueia jaguaralis*	12-May	
Pyralidae	*Atheloca subrufella*	16-Jul	
Pyralidae	*Omphalocera cariosa*	21-Jul	

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Stuart Marcus sends this report for May 11 - August 10:

Trinity National Wildlife Refuge, Liberty, Liberty County, TX (30.097N, 94.765W)

New species added to the Refuge between these dates.

COUNTY RECORDS

Family	Species	Dates	Comments
Cosmopterigidae	*Melanocinclis lineigera*	22-Jul	
Crambidae	Achyra bifidalis	28-Jul	
Crambidae	*Donacaula melinellus*	31-May	
Crambidae	*Pyrausta bicoloralis*	22-Jul	
Depressariidae	*Antaeotricha albulella*	27-Jul	
Erebidae	*Dasychira atrivenosa*	11-Jul	
Erebidae	*Hypena palparia*	19-Jun	
Erebidae	*Palthis angulalis*	17-Jun	
Geometridae	*Anavitrinella pampinaria*	28-Jul	
Geometridae	*Eusarca fundaria*	17-May	
Geometridae	*Iridopsis ephyraria*	16-May	
Noctuidae	*Achatodes zeae*	03-Jun	
Noctuidae	*Acronicta exilis*	23-May	
Noctuidae	*Perigea xanthioides*	19-Jun	
Pyralidae	*Achroia grisella*	19-May	
Pyralidae	*Cacotherapia unipuncta*	27-Jul	ID:ECK
Tortricidae	*Lorita baccharivora*	05-Jul	

Virginia: Harry Pavulaan, P.O. Box 1124, Herndon VA 20172, E-Mail: pavulaan@aol.com

Harry sends in the following report:

Butterflies [County records in all CAPITALS]. A separate report for Great North Mountain follows below:

Papilio polyxenes – SUSSEX County: Stony Creek, Route 301, August 19, 2017 (obs. Harry Pavulaan)

Pterourus appalachiensis – ALLEGHANY County: George Washington National Forest, Ogle Creek Road, May 15, 2017 (100+ obs. and photo – Barrie Kinzie).

Pterourus troilus – SUSSEX County: North of Jarratt, Route 301, August 19, 2017 (observed flying along shoulder – Harry Pavulaan).

Heraclides cresphontes – Loudoun County: Leesburg, August 23, 2017 (fresh third brood male nectaring on *Buddleia*, net/released – Harry Pavulaan).

Phoebis sennae – GREENSVILLE County: Skippers, Route 301, August 19, 2017 (several observed crossing highway – Harry Pavulaan). Hanover County: Ashland (obs. – Harry Pavulaan). Sussex County: Route 301, August 19, 2017 (individuals sighted at roughly 1-mile intervals along entire stretch of Route 301 through county – Harry Pavulaan).

Abaeis nicippe – Greensville County: Skippers, Route 301, August 19, 2017 (observed along highway shoulder – Harry Pavulaan). PRINCE GEORGE County: Route 460 east of Route 295, August 19, 2017 (obs. - Harry Pavulaan).

Satyrium edwardsi edwardsi – FREDERICK County: Great North Mountain, June 30, 2017 (coll. Harry Pavulaan), at edge of Scrub Oak Plain remnant on summit.

Parhassius m-album – HANOVER County: North of Ashland, August 19, 2017 (nectaring on Boneset, coll. – Harry Pavulaan).

Celastrina neglecta summer form (generation 2) – Loudoun County: Leesburg, May 18, 2017 (first female observed), followed over several days by a surprise mass irruption of hundreds of adults in all forested and open habitats including suburban neighborhood yards, sidewalks, downtown, even crossing a shopping center parking lot. This flight peaked on May 29 with hundreds seen everywhere within an hour in several habitat types. Dozens swarming on *Ptelea trifoliata* (Hop Tree) blossoms along woodland edge. This flight shows a dramatic recovery and demonstrates the species' ability to rebound from the dramatic die-off nearly an entire brood of males in March, due to two weeks of arctic deep freeze. By May 31, with passage of a severe thunderstorm, numbers dropped [illegible]
wonders of the effect on the gene pool, of a very small number of [illegible]

[illegible] August 19, 2017 (obs. nectaring – Harry Pavulaan). [illegible] Few milkweeds in [illegible]

[illegible] Meadows County Park, Franconia, July 5, 2017 (obs.- Harry [illegible]). Loudoun County: Claude Moore County Park, Sterling, July 5, 2017 (coll.- Harry [illegible]). These are the only two extant colonies known to me in northern Virginia [illegible] a brief, highly-localized flight, emerging in the last week of [illegible] in early July.

[illegible]egisto eurytris – Fairfax, Frederick, Loud[illegible] and Prince Georges Counties: [illegible] throughout the region wherever I looked, in M[illegible] *M. cymela* begins flight. [Also [illegible] Counties in Mar[illegible]

[illegible]

[illegible]
3507 41st Street
Lubbock, Texas 79413

Moths:

Eacles imperialis – Loudoun County: Leesburg, July 24 & 30, 2017 (photos – Harry Pavulaan), first time seen in Leesburg in 13 years.

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The Southern Lepidopterists' News is published four times annually. Membership dues are $25.00 annually. The organization is open to anyone, especially those with an interest in the Lepidoptera of the southern United States. Information about the Society may be obtained from Marc Minno, Membership Coordinator, 600 NW 34 Terrace, Gainesville, FL 32607, E-Mail: mminno@bellsouth.net, and dues may be sent to Jeffrey R. Slotten, Treasurer, 5421 NW 69th Lane, Gainesville, FL 32653.

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