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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

DASYCHIRA MATHERI FERGUSON, 1977 (LEPIDOPTERA: EREBIDAE: LYMANTRIINAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

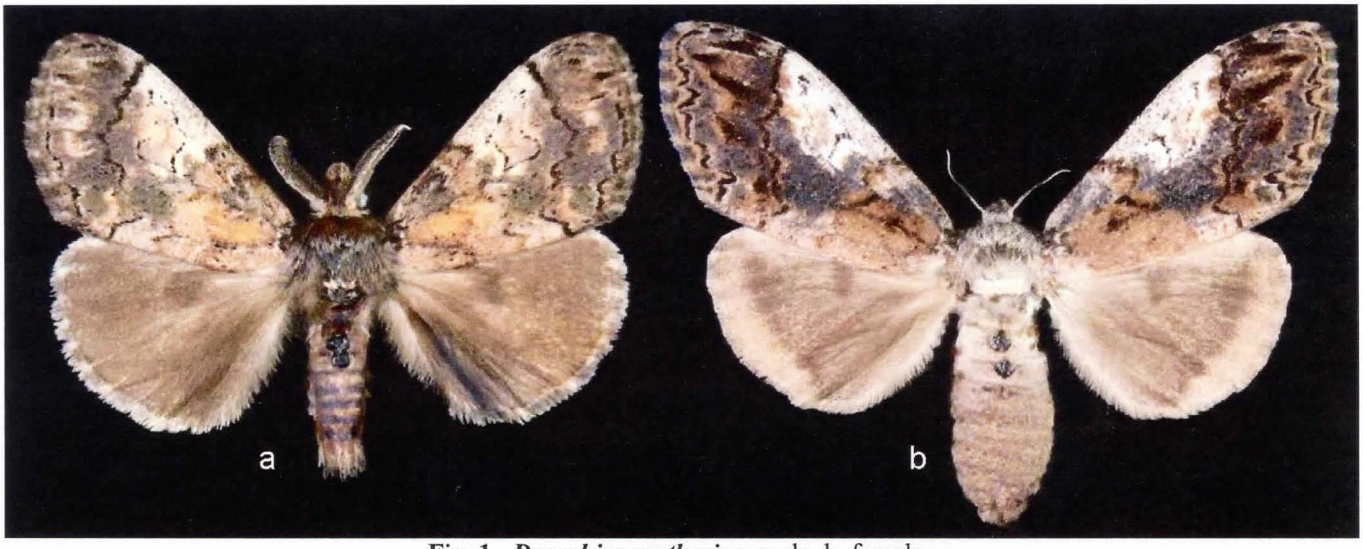

Fig. 1. ***Dasychira matheri***: a. male, b. female.

The Erebid moth ***Dasychira matheri*** Ferguson (Fig. 1) is one of nine species of the genus I have recorded for the state of Louisiana. This species was named after the indefatigable Mississippi insect collector, the late Leon Bryant Mather (1916-2002). Bryant, as he was known to most everyone was born in Baltimore City, Maryland, and lived much of has later life in Clinton, Hinds County, Mississippi, USA. I had the benefit to know, correspond, and visit

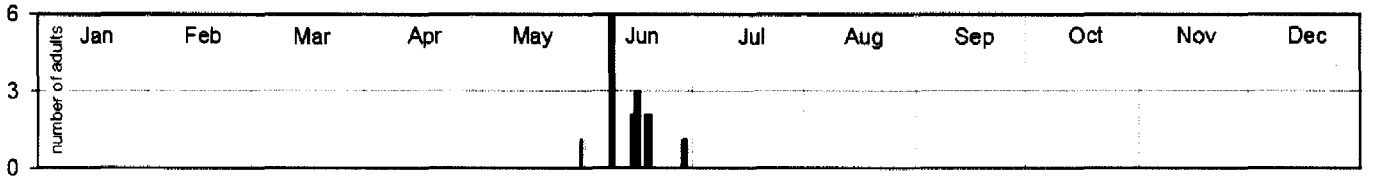

Fig. 2. Adult ***Dasychira matheri*** captured in Louisiana. n = 21

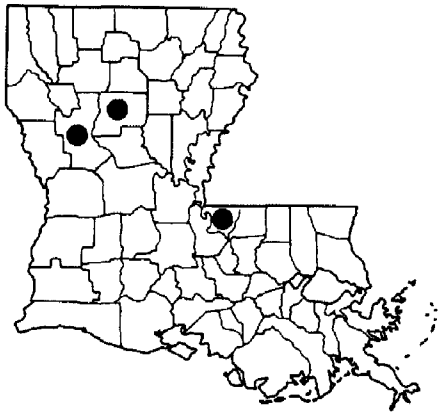

Fig. 3. Parish records for ***Dasychira matheri***.

Bryant numerous times over 3 decades to 'talk about moths' with a knowledgeable fellow lepidopterist.

One of the more interesting little-known facts about Bryant, was that the home he lived in at Clinton, Mississippi, had outer walls clad entirely with thick corrugated asbestos sheeting. When he designed his home, Bryant incorporated other interesting and thought provoking features as having the amout of roof overhang on all sides of the structure be sufficient enough, so that on any day of the year, no rays of the sun would enter directly into any of the glass windows, but not excessively, so that the sun's rays appeared at its highest point just below the sill of any window. Even though many people visited him, rarely did anyone notice the bare gray-colored asbestos walls covering his entire house. His unpretentious home was extremely well insulated from the severe outside elements.

Within Louisiana, ***matheri*** has only one annual brood peaking early to mid June (Fig. 2). It seems to be somewhat localized where found. The parish records for ***matheri*** are illustrated in Fig. 3.

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

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A HEARTY WELCOME TO OUR NEW MEMBERS

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JAMES' CHALLENGE

James Adams continues his generous challenge to the members of the SL Society for next year (2016). He will donate to the Society $10.00 for an article on "*Dangers of Lepping*" and "*First Encounters*" up to a total of $100.00. **Many thanks** to James for his ongoing challenge.

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SOUTHERN LEPIDOPTERISTS' SOCIETY
TREASURER'S REPORT FOR 2015
AS OF SEPTEMBER 30, 2015

There are **163** paid members. Last year there were **144** paid members. A complimentary copy of each quarterly newsletter is sent to the Library of Congress and The Division of Plant Industry (library).

Beginning Bank Balance with SunTrust Bank in Gainesville, Florida, as of 1/1/2015: **$1,096.67**

Ending Balance with SunTrust Bank in Gainesville, Florida, as of 9/30/2015: $2,477.62

Deposits and Credits: Includes member dues and donations, collections from meetings, James Adam's Challenge donations, and sales of old newsletters: **$5,775.00**

Withdrawals and Fees: **$4,294.05**

Bank Fees: **$18.00**
$ 6.00 deposit correction fee
$12.00 maintenance fee for balances below a certain level each month

Printing Newsletters: **$3,103.02**
Volume 36 #4 $ 646.11
Volume 37 #1 $1211.55
Volume 37 #2 $1245.36

Postage for Newsletters: **$1,155.02**
Volume 36 #4 $391.94
Volume 37 #1 $369.96
Volume 37 #2 $393.12

Reimbursement for supplies (mailing envelopes) **$18.01**

Cost of Newsletters:
Volume 36 #4 $1038.05
Volume 37 #1 $1581.51
Volume 37 #2 $1638.48

Average Cost to Publish: **$1,419.35 x 4 = $5,677.40**

163 paid members x **$25.00** = **$4,075.00** minimum collections

Donations **$70.00** and above:

Bob Belmont $100
Tom Emmel $70
Floyd and June Preston $100
Gary Ross $100
Robert Dirig $100
Marc Minno $100
Mark Simon $80
Charlie Covell $100
Mack Shotts $100
Jackie Miller $70
Jon Turner $70
Ed Knudson $100
Ferrel Marks $100
Charles Bordelon $100
Candace Sarikonda $100
Larry Gall $100

This is about **$1150.00** extra over regular dues.
Other Dues over **$25** are about **$550.00** so the extra over regular dues equals about **$1700.00**.
$4,075.00 plus **$1,700.00** = **$5,775.00**. It costs about **$5,677.00** to produce the newsletters so we are just breaking even.

Addendum: At the recent Southern Lepidopterist's Society meeting in Gainesville (weekend of October 17-18, 2015) a new category for donations called Life Membership at **$1,000** was established. Three SLS members, John F. Douglass, David L. Auth, and Stephen Mix are the first donors. Thus, we have a new Treasury balance of **$2,477.62** + **$3,000.00** = **$5,477.62.** Many thanks.

Respectfully submitted,
Jeff Slotten, SLS Treasurer

A TOUR OF THE ENTOMOLOGY COLLECTION AT THE ACADEMY OF NATURAL SCIENCES OF DREXEL UNIVERSITY AND THE HISTORIC TITIAN PEALE BUTTERFLY AND MOTH COLLECTION

BY

F. MATTHEW BLAINE

I have been a member of the Philadelphia Shell Club for quite a few years which has monthly meetings at The Academy of Natural Sciences of Drexel University (ANSP) in downtown Philadelphia, Pennsylvania. The Club also has annual shell shows there in the historically significant museum. One unexpected highlight of the shell show has been a tour of the massive Malacology Collection available to attendees. While taking the tour I discovered that there is also a huge Entomology Collection housed on the other side of the building! My interest in insects began many years ago when I was a young boy and has continued until the present day. I was immediately interested in seeing the Entomology Collection but that would take a few more years to happen.

At various times there have been displays in the museum of specimen insects, collecting equipment, expedition notebooks, photographs from collecting expeditions, and recently an indoor living butterfly walk through the garden. Several times I attempted to contact someone in the Entomology Department using the names of people who were mentioned in the museum displays to set up a visit but I was never able to get connected. It seems that the people who I tried to contact were out on expeditions collecting every time that I e-mailed them.

Last year I decided to give it another try but I thought that I would contact my friend Paul Callomon, who is the Curator of the Mollusk Collection and ask him if he would help me to connect with the "right person". He said "sure" he would do that whenever I wanted to come up and visit. Paul directed me to contact Greg Cowper, Entomology Department Curatorial Assistant who invited Dona and me up on April 16, 2015, for a tour of the collection. I knew that we were in for an interesting experience and that it was a large collection but I had no idea of the historically significant collection that we were about to see (Fig. 1).

Fig. 1.

We drove to Philadelphia and parked in a garage about a half of a block from the side door of The Academy. When we entered we asked the guard to give Greg Cowper a call seeing that my cell phone was not able to make contact. We got the word that he would be right down and after introductions he showed us up to the collection (Fig. 2).

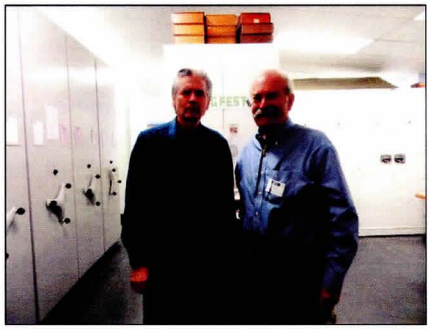

Fig. 2.

Recently there have been some significant improvements to the collection Greg explained.

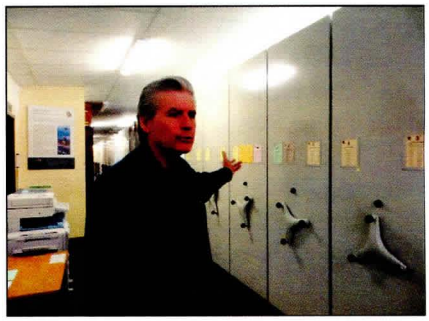

Fig. 3.

Fig. 4.

The instillation of all metal compacting cabinets designed specifically to fit the insect drawers designed by early members for the Academy is a major improvement that now has been completed (Figs. 3, 4). One of the early members owned a lumber mill and had the drawers made to his specifications. Recently a local cabinet maker has been employed to make additional drawers as well as BioQuip. You can see the ornate design which was made out of fine wood. They are slightly smaller than Cornell Drawers (Fig. 5).

Fig. 5.

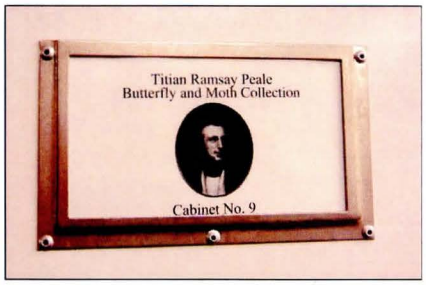

Fig. 6.

A surprise for me was the discovery of the Titian Ramsey Peale Butterfly and Moth Collection which is a historic collection and one of the oldest entomological collections in America. It is not only of historic value but it is also of scientific value because it has data from each specimen which are unique for collections of that era (Fig. 6).

Peale specially designed his own boxes that have glass tops and bottoms to display the spread butterflies and moths in his collection. These boxes allow the viewer to see the top and the bottom of each specimen. They are housed in a book binder that is attached to one side with a spine and have a front and back board covered with leather. When closed the display boxes look like books and were kept on shelves in his library (Fig. 7). Each book has the collection data for the specimen listed on the inside cover with corresponding numbers for each specimen under glass sealed in the box (Figs. 8, 9). As a result the specimens are protected from museum pests and the data have been kept in association with each specimen (Fig. 10). The book covers also protect the contents from light damage.

For Titian Ramsey Peale, the youngest son of Charles Wilson Peale, this collection was a labor of love. He continued working on it throughout his life. There are 98 "book boxes" of stored moths and butterflies that were constructed over a period from 1828 to 1885. The collection spans 57 years of early Lepidoptera collecting in and around Philadelphia. It has just undergone a massive restoration which ensures its stability for many years to come. Because of the quality of the material, the age of the collection, the scientific data, the unique box design, and the stature of the collector, this collection is a valuable treasure to be seen and studied for many years to come (Fig. 11).

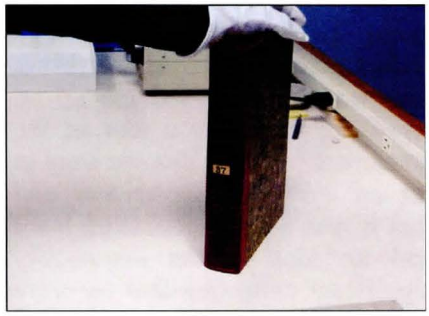

Fig. 7.

Fig. 8.

Fig. 9.

A second amazing discovery at ANSP involves a recent addition from an unusual source. A storage company owner was cleaning out a unit because payment for the unit ceased and the renters could not be located. As he emptied the unit he discovered cabinets filled with butterflies housed in glass containers that were in excellent condition (Fig. 12). The owner of the storage company contacted ANSP and asked if they were interested in the collection. They were interested and the collection was given to the museum free of charge! As it turned out this batch of Lepidoptera are housed in individual glass covered containers (Figs. 13, 14). The earlier ones have a plaster back that is sculpted to support the specimen with the body incised deeper than the spaces for the wings. The butterflies in these containers are cradled by a plaster backing and sealed with a glass top. Later models have a glass front and back and the plaster has been eliminated. The specimens are suspended on two wires that run the length of the housing. While there is no data associated with these specimens the rarity of them, their condition, age, and historic display methods, make this collection another gem worth seeing.

As with many Entomology museums, the collection is a general collection with some special areas of interest. This usually occurs due to specific interests of past members of their staffs. This is true with ANSP as well. They have an expansive group of grasshoppers which Greg next showed us (Figs. 15, 16). They even have specimens of the infamous locust that once lived in the United States. It was reported as early as 1722 in California. "The Rocky Mountain locust" (*Melanoplus spretus*) is now extinct. It had swarms larger than any other species of locust on record with one sighting in 1875 estimated at 198,000 square miles and some 12.5 trillion insects! As a result of these

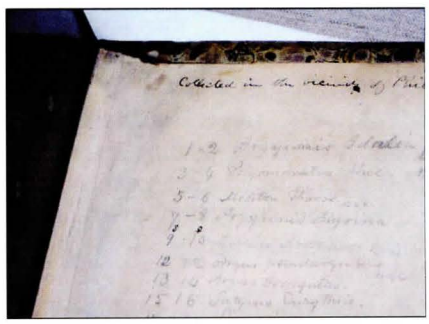

Fig. 10.

huge numbers few specimens were ever taken. The last sighting of a live one was in 1902 but fortunately ANSP has a few specimens in their collection (Fig. 17).


Fig. 11.


Fig. 12.


Fig. 13.


Fig. 14.


Fig. 15.


Fig. 16.

Fig. 17.


Fig. 18.


Fig. 19.


Fig. 20.


Fig. 21.


Fig. 22.

Next Greg took us to the Lepidoptera section. We started with the moths (Fig. 18) where he pointed out the skull design on the death head moth ***Acherontia atropos***. Next was the largest moth **Atlas moth** (*Attacus atlas*) (Fig. 19). He explained how some believe that the tips of their wings may be a protective evolution resembling a cobra snake (Fig. 20). Then on to some IO moths (*Automeris io*) and many others (Fig. 21, 23). For the finale he showed us the Queen Alexandria's Birdwing (*Ornithoptera alexandrae)* which is the largest butterfly in the world (Fig. 24). He explained that this one is from the storage locker specimens that was given to ANSP and that it is very old. This one is somewhat unique because it does not have the small holes in the wings that other specimens of its age usually have. They fly high in the treetops and the collectors could not catch them with a net so they used shotguns with small pellets and shot them down (Fig. 25)!

What a wonderful place to visit and thank you to Greg Cowper who was a gracious and informative guide and took the time to answer my many questions!

Fig. 23.

Fig. 24.

Fig. 25.

Credits

Paul Callomon – Collection Manager, Department of Malacology, The Academy of Natural Sciences of Drexel University.
Greg Cowper – Curatorial Assistant, Department of Entomology, The Academy of Natural Sciences of Drexel University.

https://en.wikipedia.org/wiki/Rocky_Mountain_locust
http://clade.ansp.org/entomology/collections/peale/
https://en.wikipedia.org/wiki/Acherontia_atropos
https://en.wikipedia.org/wiki/Attacus_atlas
https://en.wikipedia.org/wiki/Automeris_io
https://en.wikipedia.org/wiki/Queen_Alexandra%27s_birdwing

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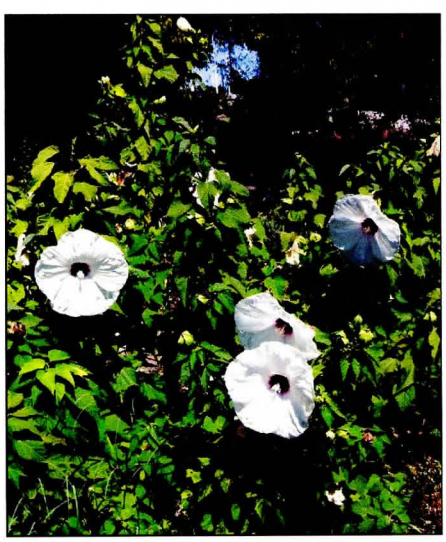


Horticultural Garden at Texas Tech University, Lubbock, Texas

SEPTEMBER ON THE GULF COAST

BY

CRAIG W. MARKS

In Vol. 34 of the Southern Lepidopterists' News, I reported finding Berry's Skippers (*Euphyes berri*) at Grand Bay National Wildlife Refuge (NWR) in Jackson Co., Mississippi, on September 17, 2011 [Marks, C.W., 2012. "Mississippi Been Berry, Berry Good to Me," *Southern Lepidopterists' News* 34(1): 4-6.]. On that occasion, I saw three Berry's, all at blooming liatris. I have been back to Grand Bay several times in the interim and had found Palatka (*E. pilatka*), Dion (*E. dion*), Twin-spot (*Oligoria maculate)*, Tawny-edged (*Polites themistocles)*, Neamathla (*Nastra neamathla)* and Delaware Skippers (*Anatrytone logan)* and Southern Broken-dashes (*Wallengrenia otho*), primarily at blooming pickerelweed in the ditches alongside the road to the boat dock, but had not seen any more Berry's Skippers.

My family decided to head over to Biloxi for the 2015 Labor Day weekend, and I decided that I would check out Grand Bay again on Sunday, September 6. To my great delight, I ended up seeing 16 species including 22 Berry's Skippers. Other southern specialties included 20 Palamedes Swallowtails (*Papilio palamedes*) and 2 Neamathla Skippers.

Unlike my first experience there, other than one male found at liatris blooms, the Berry Skippers were not at flowers but were flying in thick stands of sedges in 3 separate areas of the NWR. Both sexes were flying, 17 males and 5 females. All were clearly fresh. Two of the areas were in power line cuts. The third was along a overgrown grass road off of the larger power line cut. Since September, 2011, on my subsequent visits, as best as I can recall these areas had been bush hogged (or burned on one occasion) such that the sedge I will describe below was not noticeable.

The first Berry Skipper seen this time, a male, was sunning along the referenced road, perched on a grass stem at about 10:00 am. It was probably another 45 minutes before I saw another, the male that was at blooming liatris. There were not as many flowers blooming as back in September, 2011, and while walking toward the back of the larger power line cut (located at the front of the Refuge), I could see a stand of sedge in the cut and decided to investigate. Almost immediately upon walking into the stand, I could see males weaving through that sedge. Their flight through the sedge was very similar to how Duke's Skippers fly; however, the sedge at Grand Bay is a smaller bladed, lower growing sedge so the Berry's were able to fly deeper, down in the sedge and closer to the ground. Both sexes had a fluttering, slow flight until disturbed, but once disturbed, their flight became swift and direct, away from the sedge and out of sight.

I had not been able to find any sources that identified a specific sedge as the larval foodplant for this skipper. A few suggested sedge in the Carex family, but most simply stated, "sedges." I took several pictures of the sedge and e-mailed them to Dr. Charles Allen, my Louisiana grass expert. Dr. Allen initially stated that sedges are extremely difficult to identify without examining the reproductive parts, but then added that he felt the sedge pictured look more like a flat sedge (the genus *Cyperus*) than a Caric sedge (genus *Carex*). He added that most of the Caric sedges are cool weather plants but some do persist into the summer.

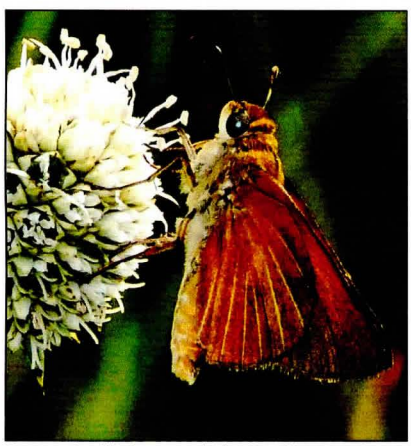
Sedge at Grand Bay NWR (September 6, 2015)

The males appeared to both patrol and perch. The females perched, moving only short distances before landing again. While both sexes would occasionally land on the sedge, they seemed to prefer to land on stalks of grass in and adjacent to the sedge. They had a curious habit of landing on straight stalks of grass, head up, about mid stalk. At that height, down in the grass, they were camouflaged and difficult to see.

Berry's Skipper (September 27, 2015)

Around 11:00, I moved from the large power line cut down the road in order to see what was on the pickerelweed in that road's ditches. Although I found no Berry's, I saw numerous Twin-spot Skippers, ultimately counting a total of 98. While walking along the road, I saw a smaller power line cut off to the east of the road and could see more sedge about 50 yards in. Again, upon reaching the area of sedge, I immediately found Berry's Skippers flying in the sedge. I also found two male Dion Skippers, and I wonder if they are using the same sedge as their larval foodplant at this location.

Berry's Skippers could potentially be confused with at least two other skippers present at Grand Bay, the aforementioned Dion Skippers and Palatka Skippers. On Berry's, the primary visual characteristic is the pale yellow tracing of the veins on the lower ventral wings of fresh individuals. Dion Skippers have a light ray down the middle of the ventral hindwing and usually another, smaller ray along the bottom of that same wing. Palatka Skippers have a darker, more buff color on the ventral hindwing with neither tracing of the veins nor lighter rays on that hindwing. I want to thank Linda Cooper and Mary Ann Friedman for allowing me to use their excellent close-up pictures of these three skippers.



Berry's Skipper (Linda Cooper)

Dion Skipper (Mary Ann Friedman)

Palatka Skipper (Mary Ann Friedman)

About noon, I returned to the grass road where I had seen the first male. By this time it had warmed considerably. There were several more Berry's flying at this location, but the increased heat had correspondingly increased their wariness and tendency to take flight at the slightest approaching movement. Also, I had wandered into an area thick with large brown ticks. With more ticks crawling on me than I cared to endure, I decided to beat a hasty retreat back to my car. During the 30 minute drive back to Biloxi, I must have pick 10 ticks off of my clothing. I was still finding ticks in that car and on me the next day.

I was able to return on September 27, 2015, between 9:45 and 11:30. There was much more liatris in bloom in both of the power line cuts which I had previously visited and, as I had witnessed back in 2011, those blooms were pulling in Berry's, Palatka and Neamathla Skippers like a magnet. There were also hundreds of yellow flowers that one male Dion Skipper and several Palatka and Ocola (*Panoquina ocola*) Skippers were visiting. The pickerelweed was getting a little attention, primarily from Palamedes Swallowtails and Twin-spot Skippers. Other than the Twin-Spot Skippers which were worn, everything appeared to be fresh.

I was able to visit Grand Bay so soon after the September 6 visit because I had made a quick run over to the Gulf Shores, Alabama area. Specifically, I had seen a posting on the NABA Recent Sighting page that Jim Egbert had seen several Palmetto Skippers (*E. arpa*) and Palatka Skippers on September 17. The former was a skipper that I had

Berry's Skipper (September 27, 2015) at Grand Bay

Palatka Skipper (September 27, 2015) at Grand Bay

not seen and wanted to very much see. I was able to make contact with Jim by e-mail to get some specifics (with many thanks to Jim for his help and information).

The Palmetto Skipper is a large golden/orange grass skipper that inhabits open pine savannas with a palmetto understory along the southeastern seaboard into most of Florida, as well as along the Gulf Coast of Mississippi and Alabama. There are two, possibly three broods spread out from March into May and then July to October. Mathers reported an old record from the Gulfport, MS, area (Harrison County) in September. Ricky Patterson advised, via e-mail, that he found it once near Moss Point, and that Rick Kerogsein had collected it around Bay St. Louis. Patterson suggested searching for it from mid to late September along gravel roads and power line cuts at flowers as it is an avid flower feeder. The flight is described as fast and difficult to follow. In Alabama, Vitaly Charny reported (via e-mail) finding it a few years ago in Bon Secour NWR near Fort Morgan, but Jim's report was not only current, but also site specific. Jim had reported the best time to see it was at blooming Blazing Star or pickerelweed.

My wife had decided that she was going to spend the weekend swapping my daughter's bedroom with another room and then paint both rooms. I was promised I was not going to be needed, and to assure I could not be dragged into that ordeal, I decided to make a road trip to Alabama. So, I got up very early Saturday morning and headed east. The location was along a public road from the Fort Morgan Hwy to a public beach in the immediate area of the Bon Secour NWR. I have hiked in Bon Secour on numerous occasions on the Jeff Friend Trail, the Pine Beach Trail and at both ends of the Centennial Trail, but had never seen Palmetto or Palatka Skippers. I arrived at the location Jim had suggested at about 10:45 and within 5 minutes had seen a large female Palatka Skipper. I ended up seeing 20 species including 5 Palmetto Skippers (2 males, 3 females) and 9 Palatka Skippers (a mix of mostly fresh males and females).

As Jim advertised, all but one female Palatka Skipper were seen at Blazing Star. Other than watch these skippers feed (they are so large they seem to dangle off of the Blazing Star), I really didn't get to witness too much of their behavior in the wild. I will confirm that when disturbed, they disappear quickly.

Palmetto Skipper (Linda Cooper)

Palmetto Skipper (♀) (September 26, 2015)

I had always wondered why this skipper had not yet been found in Louisiana. Its larval food plant is saw palmetto, a plant that is not just common, but actually abundant in many locations in southern Louisiana. I feel this trip did give me some insight into that question. This area of the Fort Morgan peninsula presents a dune ridge ecosystem that includes areas of maritime forest, pine scrub and a series of parallel, dry dune swales. The area which the Palmetto Skippers seem to prefer is dominated by pines with a mostly open canopy, and the soil is primarily sandy. This skipper does not appear to favor habitat with palmettos under a thick, deciduous canopy. Unfortunately, that is the common ecosystem within which palmetto exists in most of Louisiana; however, this skipper could be found

in extreme southeastern Louisiana with its open, pine flatwoods habitat.

Actually, I believe both Berry's and Palmetto Skippers will ultimately be found in Louisiana. I will start my search in and around the Big Branch Marsh NWR in southeastern St. Tammany Parish, along the north shore of Lake Pontchartrain. That NWR encompasses over 18,000 acres of transition zone between pine flatwoods, marsh and shoreline grass beds. A birding friend has also suggested the White Kitchen area of that same parish with similar habitat. Palatka Skippers (to date, only found in extreme southwestern Louisiana in Cameron Parish) should also be present in this region. I suspect these skippers could also be present in eastern St. Bernard Parish; unfortunately, likely habitat, such as the Biloxi Wildlife Management Area, is only accessible by boat.

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DEFINITIONS:

Leguminous - having the nature of, or bearing a ***legume*** which is any of a large group of plants of the pea family (peas, beans, clover and alfalfa) characterized by true pods enclosing seeds. (1)

Rugose - a surface that is rough, ridged, or wrinkled. (2)

Uncinate - a hook, hooklike, hooked. (1)

Mucilage - a substance produced by certain plants (usually legumes), algae, and microorganisms that is gelatinous; substance containing protein and ***polysaccharides***. (3)

Polysaccharide - a carbohydrate that is composed of single sugar units that are chemically joined; examples are starch and cellulose. (4)

1. Webster's New World Dictionary, College Edition
2. http://www.thefreedictionary.com/rugose
3. http://www.merriam-webster.com/dictionary/mucilage
4. http://www.thefreedictionary.com/polysaccharide

MONARCHS OVER LAKE ERIE WATERS: CITIZEN SCIENTIST OBSERVATIONS

BY

CANDY SARIKONDA

South Bass Island monarch roost at dawn in hackberry trees (2015). Photo by Candy Sarikonda.

Recently, I visited South Bass Island in Lake Erie for a weekend of monarch activities. The Lake Erie Islands are favorite stomping grounds of mine for many reasons, but chief among them is the opportunity to witness the annual fall monarch migration moving through the islands. For over four years, colleagues and I have been working to document monarch activity in the Lake Erie islands region. Through our documentation and the reports of other citizen scientists, we have found evidence that monarchs do cross Lake Erie, and they do so deliberately and successfully.

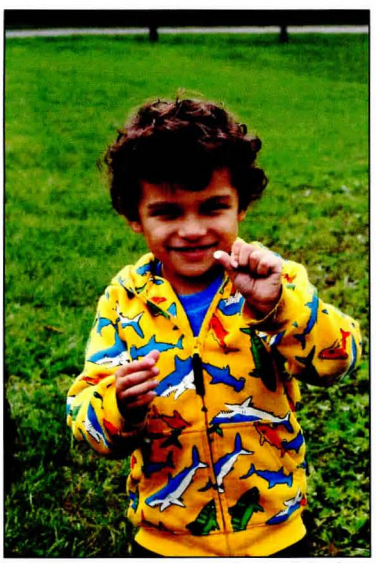
While scientists are aware that monarchs can cross water, it is not well understood how monarchs cross the lake and under what conditions they will do so. Specific observations are few. Physical conditions such as wind direction, wind speed and temperature during these transits are not well understood. Reports from citizen scientists can serve to increase our understanding of the monarch migration over bodies of water. This article will share the stories of citizen scientists throughout the Great Lakes region, highlighting reports primarily from observers in Lake Erie and Lake Ontario, but also a few reports from Lake Michigan.

Why do monarchs cross the Great Lakes?

There is some explanation for this, particularly as it relates to Lake Erie. Dr. Chip Taylor has provided an explanation of monarch movements through southern Ontario, along the north shore of Lake Erie. Dr. Taylor explains, "During the fall migration in southern Ontario, Monarchs cluster together on trees to form overnight roosts in a manner similar to the dense aggregations formed at the overwintering sites. Overnight roosts may contain a few hundred to several thousand individuals, and monarchs usually form clusters in the same areas year after year. The location of overnight roosts is largely determined by topography, and proximity to abandoned farmlands with abundant nectar resources such as fall composites (asters and goldenrods). Monarchs migrating south in the fall through southern Ontario build up in numbers along the north shores of Lake Ontario and Lake Erie. Their apparent reluctance

"This is a photo of my daughter Maya age 11. I have taught my kids how to slowly sneak up on nectaring monarchs and catch them by hand. Maya is especially good at this. Maya caught this one as it nectared on ironweed. We often catch migrating monarchs by hand to examine the size of their abdomen. Catching them by hand, as opposed to using a net, helps reduce damage to surrounding plants and possibly injury to monarchs from swooping at them with the net." Photo by Candy Sarikonda.

to fly over large bodies of water, coupled with the desire to continue moving southwards, probably causes the butterflies to fly southwestward following the shoreline. This inevitably results in large concentrations of monarchs accumulating on peninsulas jutting out into the lakes, where they have little choice but to eventually proceed southward over open water. Large aggregations and overnight roosts occur at many locations on peninsulas and at other locations along the lakeshores, including Presqu'ile Provincial Park, Long Point, Rondeau Provincial Park and Point Pelee National Park." (http://www.monarchwatch.org/read/articles/canmon2.htm)



"This is my son Jayden. I bring all three of my kids to the islands to help wih tagging and photographing the monarchs. Jayden wanted us to tag him, so Jackie put a tag on his coat. He was fascinated wih that little sticker and promptly used it to tag all of us." Photo by Candy Sarikonda.

One of the main stopover sites for monarchs migrating along the northern Lake Erie shoreline is Point Pelee, located in Leamington, Ontario, Canada. Each fall, naturalists and observers at Point Pelee National Park report hundreds or thousands of monarchs gathering at the tip of the peninsula, awaiting favorable weather and a good tailwind that will enable them to cross the lake safely. Most often, monarchs gather at the tip ahead of a storm or cold front, or during times when winds from the south create a significant headwind. Monarchs will remain at the tip and nectar as they wait for favorable air temperatures and calmer, more northerly winds. Once the weather is suitable, they will continue their migration across the lake.

Observers have reported the behavior of monarchs as they fly out over the lake. Citizen scientist Darlene Burgess frequently observes monarchs roosting at Point Pelee National Park. Burgess has reported roosts of 4000-5000 monarchs at the tip of the peninsula. She has noticed that northerly winds tend to facilitate the migration, whereas strong southerly winds and storm fronts will cause monarchs to gather at the tip. Burgess shared this observation, "On Saturday, September 19, 2015, a strong storm moved into the area. Winds were from the southwest at 16-18mph with gusts of 23-35mph. Over 5,000 monarchs roosted at the tip. The next morning, winds were from the north at 9 mph. As the sun rose, monarchs roosting on the east side of the trees began basking, and quickly began to disperse. Most were dispersed by 7:45am. The three largest roosts broke up by 8:30am. The monarchs flew to the shoreline trees, and then began flying out over the water in groups of 6-8 individuals, initially about 60 feet over the water. They appeared to be testing the wind and their strength. Some would fly back to the trees, but the majority continued on. As they continued south over the lake, they flew even higher, up to 100 feet. I was able to watch them for some distance with my star-gazing binoculars. They continued on, flying due south, at a height of about 60-100 feet above water. This continued on until about 12:30pm, when all monarchs were gone from the tip." She further reports, "I observed on another day with a strong southeasterly wind that the monarchs were leaving low from the shoreline. They were again flying out in groups of 6-8, testing the winds. Most returned to shoreline trees, with only a few continuing on each time. That's the day I painfully watched two monarchs fly south about a foot over the 1-foot waves…I was so concerned the waves would hit them. I did observe them attempt a higher altitude of 10-15 feet, but not for more than a second or two before returning to their low flight and flying out of view."

Beall, in 1941, reported his observations of monarchs leaving the shoreline. He noted that "monarchs starting out over the lakes from the shore, flew either with or against the wind." He felt there was no marked tendency for monarchs to move either with or into the wind, and thus concluded that monarchs were not simply being pushed around and dispersed passively but were instead flying with deliberate purpose. He enlisted the aid of

the Southey Shoals lighthouse keeper to document monarch movements over Lake Erie from 1937-1938. The lighthouse is located 7 miles off Point Pelee. The keeper recorded flight direction for monarchs passing by the lighthouse, and data showed a preponderance of monarch flight to the south, with some lesser movement to the southeast (Beall, 1941).

Can monarchs cross Lake Erie successfully?

Directly south of Point Pelee are the Lake Erie Islands, located in the western basin of Lake Erie. My colleagues – naturalists Jackie Taylor of the Lake Erie Islands Nature and Wildlife Center (LEINWC), and Nicole King of the Ohio State University's Stone Laboratory – and I have been actively documenting the monarchs that migrate through the Lake Erie islands since 2011. I have assisted with tagging efforts and worked to locate and photograph fall roosts. Taylor and King have tagged dozens of monarchs at the South Bass Island lighthouse grounds, while also monitoring monarch migratory and reproductive behavior on South Bass Island and the surrounding islands. Taylor and King have documented monarchs reproducing on South Bass Island and Gibraltar Island, and Taylor has observed monarchs reproducing and migrating through Pelee Island, North Bass Island and Middle Bass Island. Taylor, along with Katie Hollenbeck of Stone Laboratory, carried out a tagging effort during September 24-25, 2012. During that 2-day period, winds were 8mph from the southwest, and Taylor and Hollenbeck tagged a total of 236 monarchs that resulted in three recoveries of tagged monarchs at El Rosario. These recoveries provide evidence that monarchs can cross Lake Erie from South Bass Island to the OH shoreline, a distance of three miles, and continue to migrate to Mexico successfully. In addition, I documented 400 monarchs roosting on South Bass Island on September 13, 2014, and again documented a roost of 400 monarchs that formed on the island the evening of September 12, 2015. Clearly, these monarchs were not produced on South Bass Island, strongly suggesting a more northerly, off-island origin. Miller Ferry services the Lake Erie islands, and captains and deckhands report annual observations of monarchs flying over the water toward the OH shoreline, usually at 20-30 above the water. Captain Glenn Cooper states, "I usually see 2 or 3 a day during the fall. They fly at the level of the pilot house," a height of about 25 feet off the water.

Jackie Taylor of LEINWC and Kesari Sarikonda (2012). Photo by Candy Sarikonda.

between 6am and 7am on September 21, 2014. We had just come out of a fog bank when we saw them. They were flying at boom and mid mast level, so about 12 to 45 feet off the water. It was amazing to see so many monarchs in the middle of the lake." She further reports a more recent sighting, stating "This week (September 21, 2015) I have seen 10-15 monarchs crossing the Saginaw Bay heading south. This has been around noon and they were only 10-20 feet above water." Detroit River Hawk Watch has also often reported monarchs flying over the water. Jonathan Stein, lead counter, reports they most often see monarchs flying near the water, but at times the monarchs are also seen quite high with the hawks.

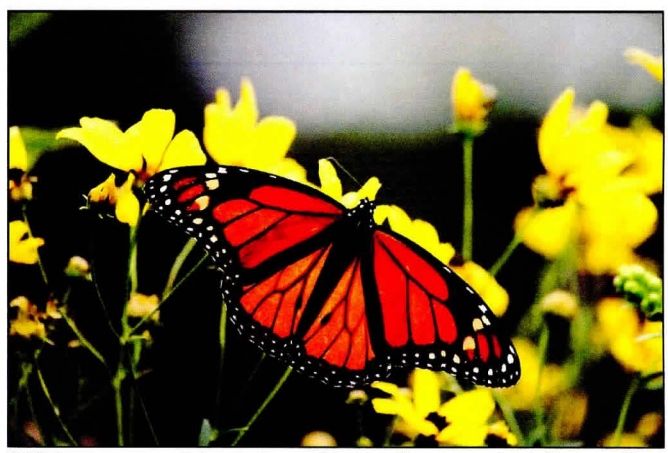
Will monarchs cross Lake Ontario, and can they do so successfully?

The reports of monarchs crossing open water over Lake Erie are further supported by reports of monarch sightings and tag recoveries over Lake Ontario. In searching for evidence of such attempted crossings, this author noted a report by Norman Tremblay of Ontario, Canada, cited in the news of the Lepidopterists' Society in 1979. Tremblay notes, "In mid-September I was at the Lake Ontario shore east of Ajax. It was a warm morning with a mist rising off the lake. There was practically no wind. A great congregation of monarch butterflies lifted from their overnight roosts and slowly formed a huge tumbling ball of butterflies about the size of a ten acre field. This enormous mass gathered itself into a tight swarm about 100 feet across and started out south across Lake Ontario some thirty feet above the surface of the water. The annual migration was underway."

In addition to Tremblay's report, there is evidence provided by Donald Davis of the Monarch Butterfly Fund. Davis has tagged migrating monarchs at Presqu'ile Provincial Park near Brighton, Ontario, Canada. Davis reports, "When there has been little or no wind in the morning in this park, when the lake is calm and smooth, I have seen monarchs fly out over the lake many times. One time I observed a hawk – a larger hawk such as a red-tailed – flying high and momentarily playing with a monarch over the lake. Perhaps trying to grasp it with its talons. BUT.....a most revealing situation and a one-time observation: the winds appeared to be out of the northeast one day at Presqu'ile, and monarchs had flown out over the lake with a tail wind. THEN....suddenly it became quiet....little wind for perhaps a half hour to an hour...and THEN.....the winds that were part of what must have been a huge circle of a rotating wind system suddenly came from the south or south-west, and all of a sudden, hundreds of monarchs were being blown in to shore from out on the lake. What a magnificent sight! A one-time only sighting." Davis further reports "I have had reports of boaters way out on Lake Ontario observing monarchs flying south. I have had tag recoveries of monarchs released at Presqu'ile and recovered in Rochester, New York...thus I know that the monarchs set out and try to cross Lake Ontario." Davis' tag recoveries include wild monarchs tagged at Presqu'ile Provincial Park and recovered at: Otisco Lake near Marietta, New York; Binghamton, New York; Marcellus, NewYork; Apalachin, New York; Findley Lake, New York; Olean, New York; and Tully, New York. All of these monarchs were tagged during 1985 and 1988 as part of the Urquhart Insect Migration Association tagging program. Five of these recovery sites are southeast of Presqu'ile Provincial Park, while one is southwest and another is just slightly southwest. Davis did not record prevailing winds at the time, but prevailing winds at Presqu'ile Provincial Park in fall are typically from the west or southwest. Interestingly, Ted McDonald tagged a monarch at Port Hope on the north shore of Lake Ontario and it was recovered in Havana, Cuba.

Are monarchs found over Great Lakes waters during the summer?

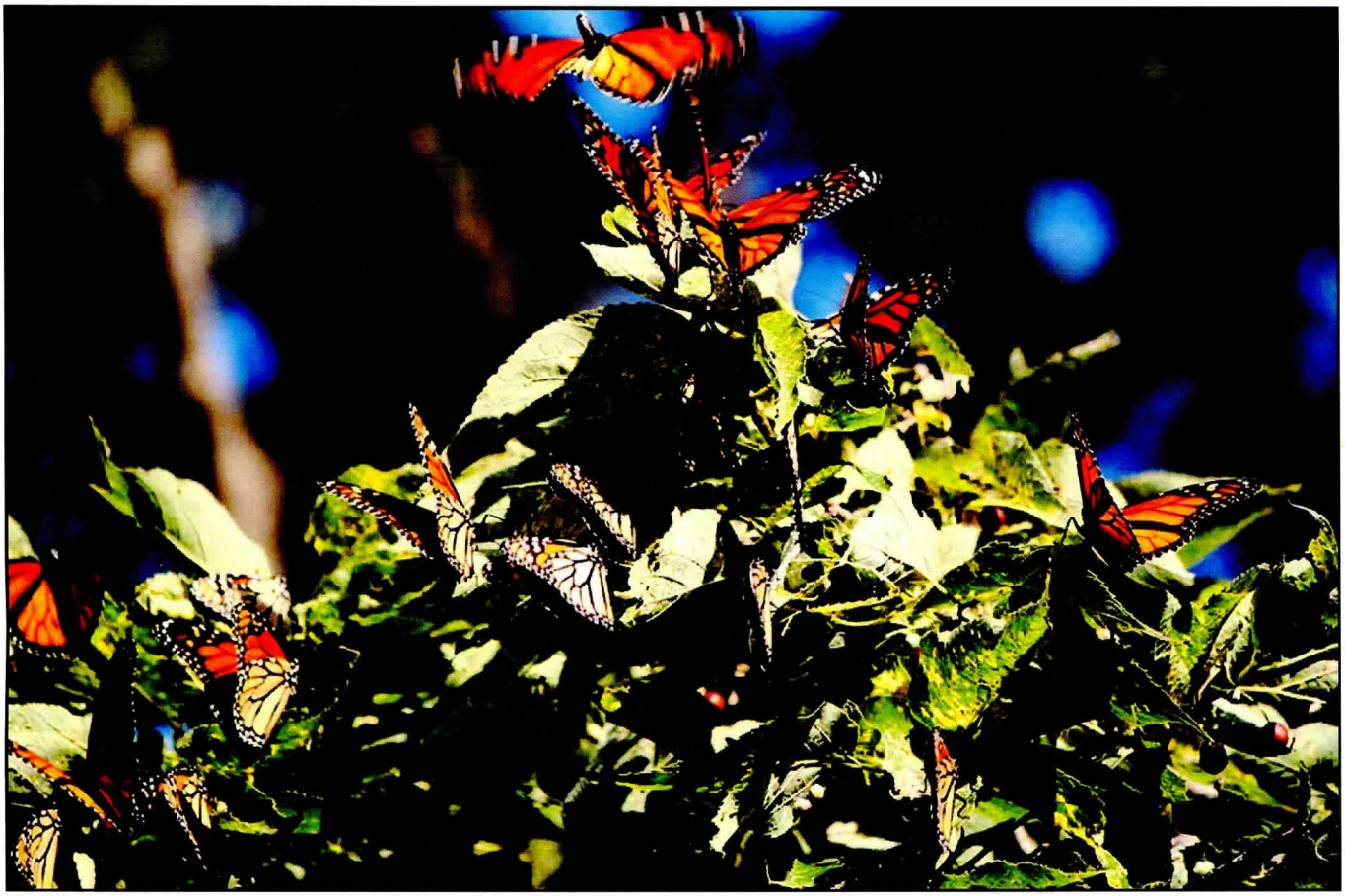
Ohio State University's Stone Laboratory staff members have reported seeing monarchs around the Lake Erie islands in summer. Katie Hollenbeck reports, "We see them all the time, flying about 10-15 feet off the water." Naturalist Jackie Taylor of the Lake Erie Islands Nature and Wildlife Center has documented monarchs reproducing in the islands for the last four years. She reports, "We usually see our first monarchs beginning in late June. Then we see fall migrants move through the islands in mid-September, flying about 20-30 feet over



"This guy caught my eye. I wasn't sure what it was that seemed strange to me about him, but I kept seeing this flash of black as he flew around in the lighthouse garden. I decided to take pictures, and look at them more closely later. At home, with photos enlarged on my computer, I saw that this monarch is missing many of the white spots near the wing tips. I saw him on August 29, 2015. I saw another aberrant, not sure if it was the same one, in the roosts I photographed on the island September 13, 2015."

the water between the islands. The southwest tip of South Bass Island is a favorite rooting site for migrating monarchs."

A very interesting report of summer monarch activity comes from Dave Agazzi, captain of a fishing charter boat on Lake Michigan. Agazzi has been boating on Lake Michigan for 20 years. He sees monarchs in fall, usually in the afternoon boat trips and flying west or southwest. But on July 19, he was stunned to see a huge influx of insects while on a charter from 1:30 to 6:30pm. The wind was calm, and they were getting bit by flies and seeing insects they had never seen before. Agazzi noted that one monarch flew by about every 1-2 minutes for the five hours he was on the water, headed due west. He was 10-11 miles offshore from Kenosha, WI. The monarchs never landed on the boat, but came close enough that he was certain of their identification. They were flying fast, about 8 - 20 feet off the water. Red admirals were also flying, and Agazzi described them as also flying fast but more erratically than the monarchs. Dr. Chip Taylor explained the nature of Agazzi's observation, stating, "This is evidence indicating the beginning of the premigration migration."



Basking monarchs in roost at South Bass Island (2015). Photo by Candy Sarikonda.

The premigration migration has also been witnessed by this author in the Lake Erie islands, usually during the first two weeks of August. See this article on this author's premigration experience during August 2013 on South Bass island http://www.mlmp.org/Newsletters/monthly/2013/ mlmp_update_201308-201309.pdf

So if monarchs can cross Lake Erie, how might they do it?

The flight threshold for monarch butterflies is a thoracic temperature of 55°F (Masters, Malcolm & Brower, 1988). Ambient temperatures, along with wind speed and cloud cover conditions, must be suitable to allow for sustained flight across the lake. Notably, lake waters cool much more slowly than surrounding air over land. Surface water temperatures in September for Lake Erie and Lake Ontario range from the high 60s to low 70s. Robert LaPlante, meteorologist for the National Oceanic and Atmospheric Administration and National Weather Service based in Cleveland explains, "Warm air over Lakes Erie and Ontario is present from the middle of July until the middle of October. By mid-October the average surface water temperature has dropped to the mid to upper 50s. During the third quarter of the year (fall), the warm lakes keep the lower few thousand feet of air usually above 60 degrees. The warm air could give monarchs buoyancy over the lake. Sometimes at night there is convergent wind flow of offshore breezes that could produce upward motion over the lake. We

could get a line of cumulus clouds and perhaps waterspouts. Lake Erie being the shallowest and the farthest south, gets the warmest of all the Great Lakes so the nocturnal warming or less cooling of the near surface

Onlookers observing small roost of monarchs in hackberry tree on South Bass Island lighthouse grounds. Photo by Candy Sarikonda.

air would be most pronounced over it." LaPlante further explains, "On a typical sunny day, there normally would not be much rising motion over the lake because it is typically absorbing energy from the sun. During the late summer and early fall, the lake is warmer than the air over the land in the morning so there could be thermals – but what typically happens is that a land or offshore breeze develops at night that moves out over the water and may converge over the center of the lake. This process then reverses in the morning, as the land begins to warm and an onshore breeze develops." In summary, these warmer air temperatures over the lakes would be sufficient to allow for flight.

Lake Erie can be 30 to 50 miles across. Monarchs could cross that distance using a combination of powered flight and gliding flight. Dr. Chip Taylor explains, "With appropriate cross winds from the northwest, monarchs would get lots of lift and though drifting southeast, would be able to maintain themselves above the surface with minimal effort – a flap, flap every twenty or thirty feet or so. Monarchs have a 3 or 4 to one glide ratio. Meaning that once they gain altitude they can glide 3-4 feet forward for every foot they lose in altitude. If there are tail or quartering winds and the air temperature above the water is high enough – ideally in the mid to high 60s – they should be able to maintain flight with a minimal effort."

What we know and don't know about monarch movements over Lake Erie

Based on observations by myself and naturalists in the Lake Erie islands, and reports from other citizen scientists in the region, it is clear that monarchs do cross the open waters of Lake Erie. They do so during the summer, as well as in the fall. They are most often seen flying at 20-60 feet above water, but reports of flight altitude range from 8-100 feet above water. Since most observers cannot see beyond a height of 300 feet above them, it is not clear if monarchs may be migrating over the lake at higher altitudes. Glider pilots have seen monarchs at 10,000 feet, and helicopter pilots servicing oil rigs in the Gulf have seen them at 1000-1200 feet. Are monarchs flying at altitudes over 300 feet above Lake Erie? More evidence is needed. Mark Shieldcastle, Research Director for the Black Swamp Bird Observatory, recently reported seeing monarchs fly onshore from Lake Erie routinely at 100 to 200 meters altitude, along the Magee Marsh beach area on the southern shore of Lake Erie. Additional reports such as this will provide valuable information for understanding the altitude of the monarch migration over Lake Erie.

Monarchs have been seen by naturalists and citizen observers gathering in roosts at Point Pelee, South Bass Island and Wendy Park in response to approaching storms and strong sustained winds. Most often, monarchs gather in roosts awaiting warmer weather and calmer winds to continue their migration. Northerly winds facilitate this migration. Notably, monarchs will fly out over the lakes from shore with northerly winds, but they will also fly out in a southerly headwind, suggesting they are deliberate in their attempts to fly across the lake. Their flight during the fall migration is most often reported as southward across the lake, as reported by observers in the present day as well as the Southey Shoals lighthouse keeper in 1937-1938. How winds might affect their flight direction over the open water will need further study. It will be important to document body vector (the monarch's intended flight direction), in relationship to the monarch's vanishing bearing (the actual direction of its flight).

Candy Sarikonda. How I like to "*capture*" monarchs. Photo taken in the field of sunflowers next to the lighthouse grounds on South Bass Island. OSU owns the lighthouse grounds. "The family that owns the adjacent sunflower field is very kind and supportive of our efforts, and allows us to tag monarchs that nectar in the field. The monarchs often roost in the hackberry trees on the lighthouse grounds during fall migration, and nectar in the sunflower field." Photo by Kesari (Kasey) Sarikonda.

Monarch ovipositing on *Asclepias syriaca* in South Bass Island's lighthouse waystation garden on August 29, 2015. Photo by Candy Sarikonda.

How winds affect monarch flight behavior is a subject of study now being undertaken by the Marine Monarchs project. Dr. Chip Taylor and Dr. Tracey Villareal have partnered on the project, with the goal of documenting monarch flight behavior over land as well as on water. An app has been created that will allow observers, both on land and water, to record the vanishing bearings and body vectors (headings) of migrating monarchs. To record the bearings and headings the observer positions him or herself directly behind a monarch that is heading away from the observer. By lining up the compass indicator of the app with the long axis of the departing butterfly and touching the tab, the app reads and records the compass direction indicated by the long axis of the butterfly's body. The vanishing bearing is the compass heading observed as the butterfly disappears from view. Cross-winds will cause the butterfly to drift to the right or left of the intended heading. True headings are most effectively recorded when there is no wind. When the app is complete, each observation will be linked to a site that provides the current wind speed and direction as well as temperature and cloud cover. By recording flight vectors and vanishing bearings throughout the migration under a variety of physical conditions, it should be possible to establish how monarchs respond to these conditions and to obtain a better understanding of how they reach the overwintering sites in Mexico.

If you see monarchs migrating, PLEASE report your sightings to Journey North. Get involved in the Monarch Watch tagging program. Check the Apple App Store for the new Marine Monarchs app (Monarch Migration – Tracking Monarch Butterfly Migration), and consider participating in this new project to document the monarch migration over land and water. Your reports of monarch migratory behavior are needed to unlock the many mysteries of the monarch migration over water!

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PERO ANCETARIA (HÜBNER, 1806) (LEPIDOPTERA: GEOMETRIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

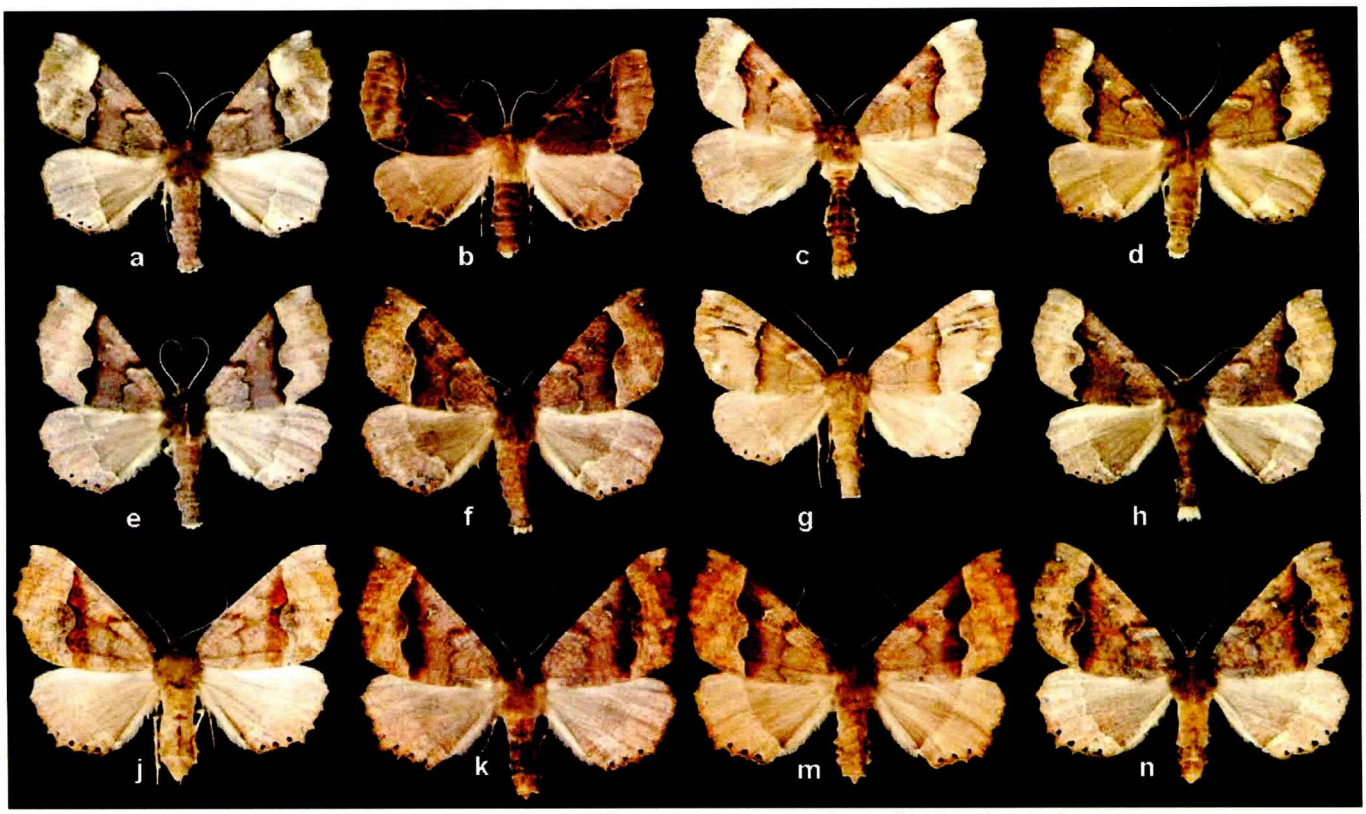

Fig. 1. ***Pero ancetaria*** Louisiana phenotypes: males (a-h), females (j-n).

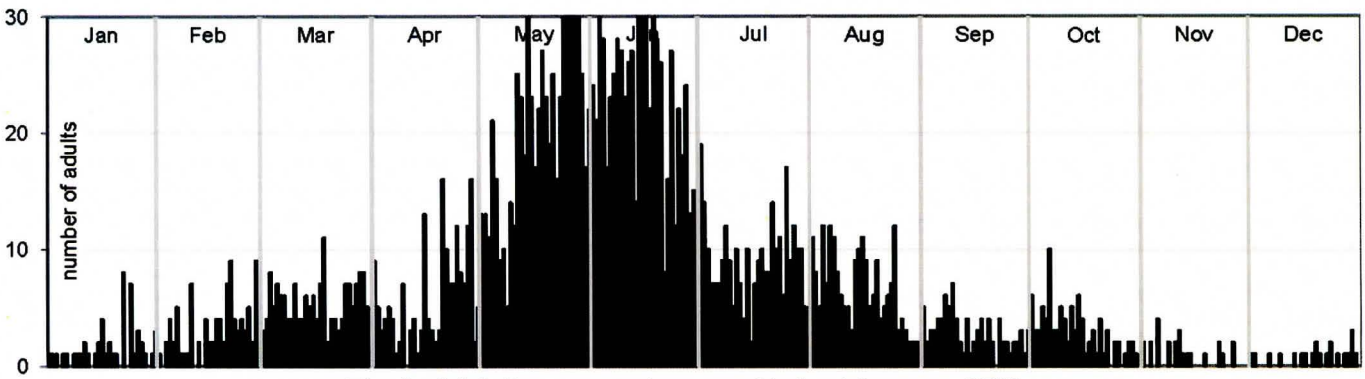

Fig. 2. Adult ***Pero ancetaria*** captured in Louisiana. n = 2552

The medium-sized brown geometrid moth ***Pero ancetaria*** (Hübner) (Fig. 1) occurs from the southern border areas of eastern Canada (Ontario and Quebec), to including states bordering along the western bank of the Mississippi River, south to Louisiana and Florida.

This species was reported by Covell (1984) as ***Pero hubneraria*** (Gn.) and being common from the eastern US in the months March through September. This same author listed three foodplants for ***hubneraria***, including wild cherry. Poole (1987) published a monumental taxonomic revision of the New World moth genus ***Pero***. Scoble and Hausmann (2007) provided an online listing of Geometridae of the world, in which ***Pero hubneraria*** is now synonymized under ***Pero ancetaria***.

Heppner (2003) lists ***ancetaria*** among several species of ***Pero*** for the state of Florida. I have not ruled out whether some individuals of my large captured series of adults are possibly ***Pero honestaria*** (Walker), a species only reported from the state of Florida along the Gulf of Mexico. Clearly visually distinguishing the variation in phenotypes

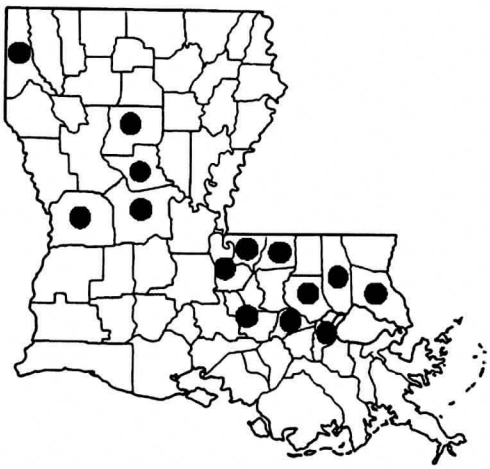

Fig. 3. Parish records for ***P. ancetaria***.

has not been addressed by any past or present workers. Such a study properly done would require a rather huge effort and a copious amount of adult specimens from numerous geographical locations across the eastern U.S.

Within Louisiana, I have captured ***ancetaria*** commonly over the past 46 years using ultraviolet light traps nearly any day of the year (Fig. 2). The initial brood appears to peak in early March, with three or more subsequent broods. On the composite multi-year phenogram Fig. 2, the annual population brood numbers explode, peaking at the end of May/beginning of June, with smaller populated subsequent broods occurring to the end of the year.

Parish records for ***ancetaria*** are shown in Fig. 3.

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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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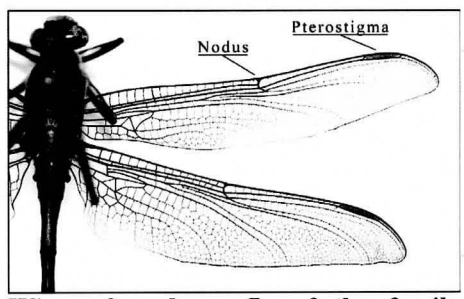
DEFINITIONS:

Apodeme - an attachment location for muscles on the exoskeleton of the arthropod . [4]

Piliform - having the form of a hair; resembling a hair. [1]

Pterostigma - cell in the outer wing of an insect which is a dark pigmented spot, usually colored darker, and thicker than cells in other parts of the wing. More commonly observed in dragonflies but also present in other insect groups. (Certain moths also have a ***pterostimga***.) Purpose is to assist in gliding. [2, 3]

Swale - a hollow or depression, that is usually found in wet or marshy ground. [6] Water-harvesting ditches. [7]



Wing of a dragonfly of the family Gomphidae, showing the *pterostigma*. [November 27th, Montreal, Canada; Author: IronChris; Permission is granted to copy, distribute and/or modify this document under the terms of GNU Free Documentation License.] [5]

1. http://www.thefreedictionary.com/piliform
2. https://en.wikipedia.org/wiki/Pterostigma
3. http://www.amentsoc.org/insects/glossary/terms/pterostigma
4. https://en.wiktionary.org/wiki/apodeme
5. https://en.wikipedia.org/wiki/File:IC_Gomphidae_wing.jpg
6. Webster's New World Dictionary, College Edition
7. http://permaculturenews.org/2012/05/16/swales-the-permaculture-element-that-really-holds-water/

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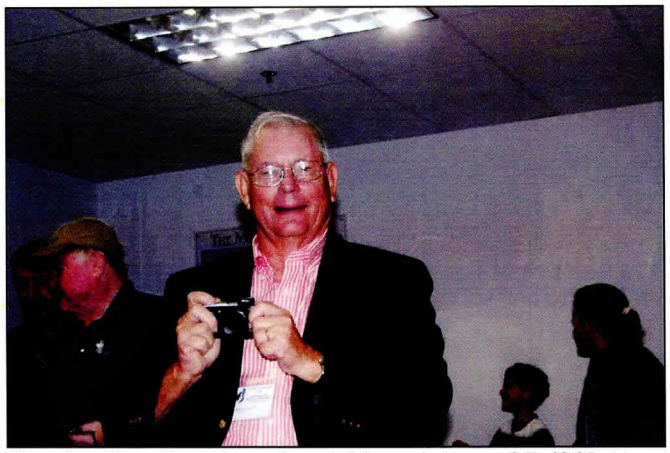
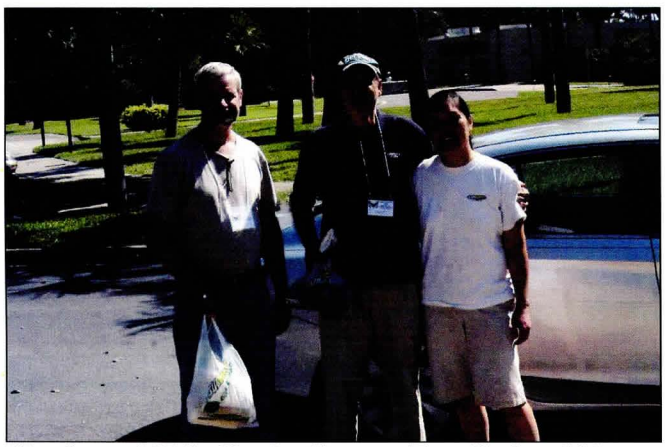
JOINT MEETING OF THE SOUTHERN LEPIDOPTERISTS' SOCIETY AND THE ASSOCIATION FOR TROPICAL LEPIDOPTERA GAINESVILLE, FLORIDA, OCTOBER 16 - 18, 2015

PHOTOGRAPHS BY JEFF SLOTTEN

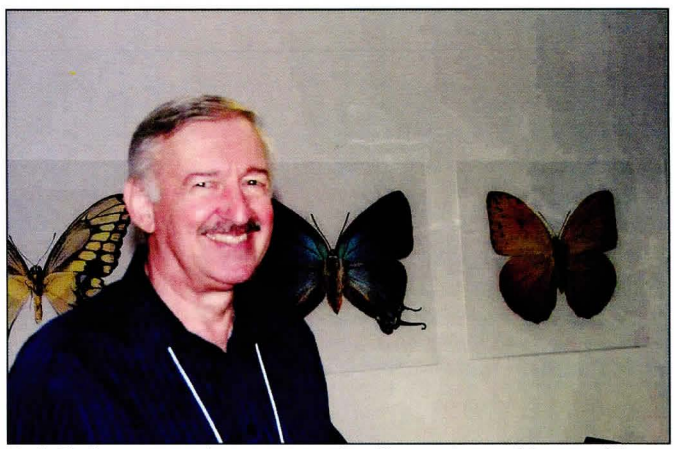


Charles Covell posing after taking picture of Jeff Slotten who has just taken his picture.

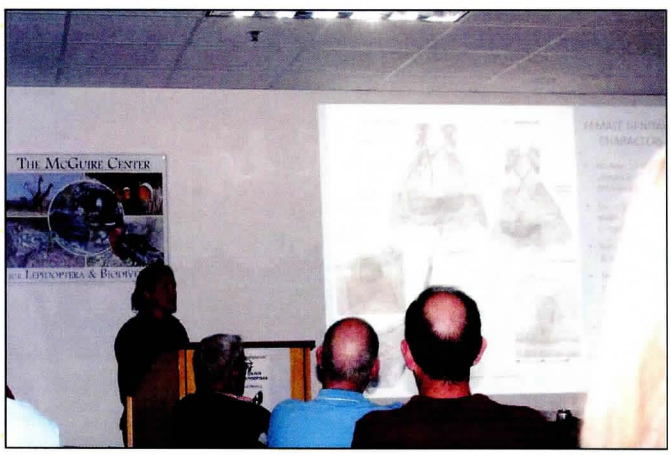
John Calhoun (striped shirt) Dennis Currutt, Leroy Koehn, and Steve Mix — all SLS members.



Members of SLS: Charles Stevens, Tom Neal and his wife Ada outside posing after having donated Subway sandwiches for all members.



Bob Belmont posing next to the fine prints of butterflies made by SLS member James L. Monroe.



Deborah Lott's presentation.

Charlie Covell's presentation

Tom Emmel presiding.

Dave Morgan at far left looking at Andrew Warren speaking with Terry Arbogast and Bob Belmont during break.

Members John Calhoun (striped shirt) then new member Charles Stevens (gray shirt) followed by Tom Neal and other non-SLS members.

Andrew Warren's presentation.

James Adams' presentation.

John Calhoun's Presentation.

WALLENGRENIA OTHO (J. E. SMITH, 1797) (LEPIDOPTERA: HESPERIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

Fig. 1. ***Wallengrenia otho***, male: dorsal a, ventral c. female: dorsal b, ventral d.

The small common skipper ***Wallengrenia otho*** (J. E. Smith, 1797) (Fig. 1) was first reported for Louisiana by von Reizenstein (1863).

Lambremont (1954) stated in error that ***otho*** was not previously reported for Louisiana. This same author stated that it was mostly collected in the 'Florida Parishes' = (S. E. Louisiana). This same author reported capturing eight specimens of ***otho*** in three parishes.

Ross & Lambremont (1963) reported ***otho*** occurring in four parishes. Lambremont and Ross (1965) did not include mention of ***otho*** in their publication.

Brou (1974) reported 28 species, 607 specimens of butterflies captured in light traps. No ***otho*** were captured in

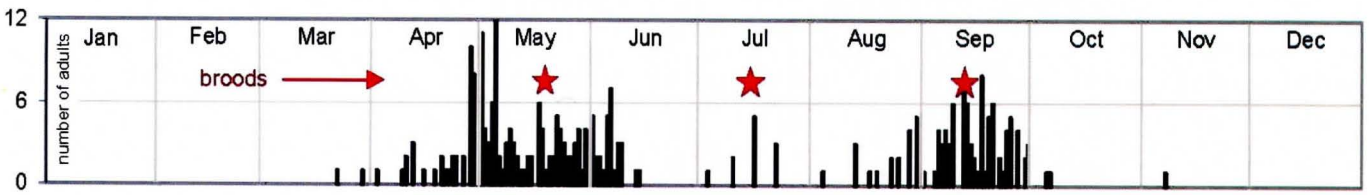


Fig. 2. Adult ***Wallengrenia otho*** captured in Louisiana. n = 291

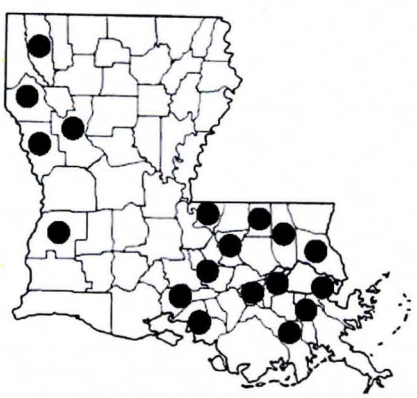


Fig. 3. Parish records.

that light trap study, though this species did occur commonly at that same location where the light traps were operated.

Within southern Louisiana, ***otho*** has three annual broods at about 58-day intervals (Fig. 2). The second brood is minimally populated and probably only represents a partial brood emergence. More than 85% of the captures illustrated in Fig. 2 were taken in ultraviolet light traps. Though no proof was provided, Brock & Kaufman (2003) reported ***otho*** has three broods in south Texas and Florida.

The parish records by this author and those listed by past authors referenced in this work are illustrated in Fig. 3.

Literature Cited

Brock, J. P. & K. Kaufman, 2003. *Kaufman Field Guide to Butterflies of North America.* Houghton Mifflin Co., New York. 392 pp.

Brou Jr., V. A., 1974. Butterflies taken in light traps. *Jour. Lepid. Soc.* 28:331.

Lambremont, E. N., 1954. The butterflies and skippers of Louisiana. *Tulane Studies Zool.* 1:125-164.

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Ross, G. N. & E. L. Lambremont, 1963. An Annotated Supplement to the State List of Louisiana Butterflies and Skippers. *Jour. Lepid. Soc.* 17:148-158.

von Reizenstein, L., 1863. *Catalogue of the Lepidoptera of New Orleans and its vicinity.* Isaac T. Hinton. New Orleans, 8pp.

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GROUP PHOTOGRAPH OF THE MEMBERS OF THE SOUTHERN LEPIDOPTERISTS' SOCIETY
ANNUAL MEETING HELD IN GAINESVILLE, FLORIDA
OCTOBER 16 - 18, 2015

(Photograph taken by Andrei Sourakov)

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INCISALIA HENRICI TURNERI CLENCH (LEPIDOPTERA: LYCAENIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

Fig. 1. Adult ***Incisalia henrici turneri*** captured at the *Abita entomological study site. dorsal: **a**. male, **b**. female, ventral: **c**. male, **d**. female

Incisalia henrici turneri Clench (Fig. 1) appears to have first been reported by Ross & Lambremont (1963) from West Louisiana Parish. Lambremont and Ross (1965) added 31 additional specimens from the same location, West Feliciana Parish.

For each of the past 35 years, I have taken ***turneri*** in my ultraviolet light traps at the *Abita entomological study site. The species was netted easily and commonly at the same site on springtime blueberry flowers and apple tree and pear tree blossoms. This species is on the wing usually in a single brood (Fig. 2), typically lasting each year for only about 10 days which occurs annually at different times in the month of March,

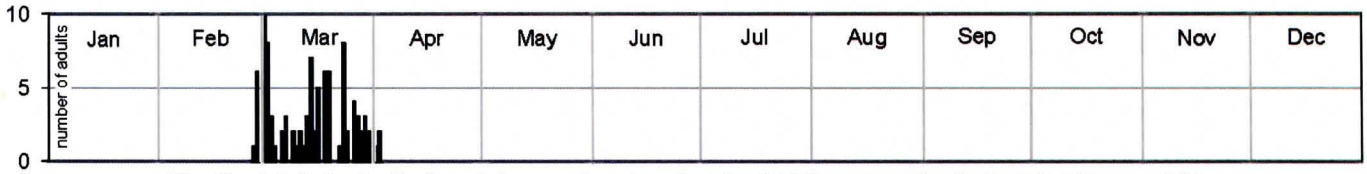

Fig. 2. Adult ***Incisalia henrici turneri*** captured at the *Abita entomological study site. n = 101

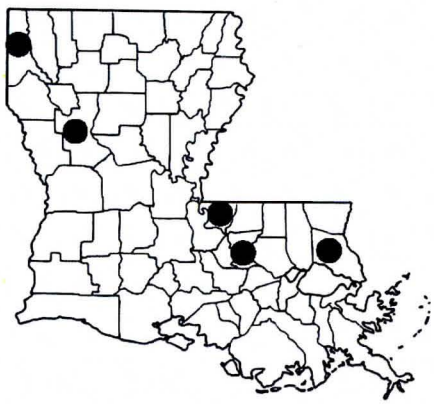

Fig 3. Parish records for ***I. h. turneri***.

due to differing springtime weather conditions. Most adults Fig. 2 (~85%) were captured using UV light traps. The known verified parish records are illustrated in Fig. 3.

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

Literature Cited

Ross, G. N. & E. L. Lambremont, 1963. An Annotated Supplement to the State List of Louisiana Butterflies and Skippers. *Jour. Lepid. Soc.* 17:148-158.

Lambremont, E. N. & G. N. Ross, 1965. New state records and annotated field data for Louisiana butterflies and skippers. *Jour. Lepid. Soc.* 19: 47-52.

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A PERSONAL COMMENTARY ON THE SUBJECT OF PLAGIARISM

BY

VERNON ANTOINE BROU JR.

I take issue with the present day proliferation of publications, *e.g.*, field guides and hundreds of other publications by newbie authors who report basing their records upon nothing more than using websites notorious for misidentifications over decades, those that sometimes appear, disappear and change several times even in a single day, month after month, year after year for decade after decade, and those unsubstantiated records provided by anyone without one iota of proven legitimate taxonomical understanding of such issues, and other unsubstantiated sources including an assorted non-technical list of past publications without any mention of specific source of these references or problems associated with those various older publications, all of which contain numerous newly recognized errors that have appeared in print in the past. We are suppose to assume that these unethical authors have actually spent a lifetime verifying the legitimacy of all of these thousands of serendipitously acquired and what can only be categorized as seemingly plagiarized records, as none of which, these authors provide sources for. Such authors apparently have some sort of mysterious psychic gift to be 'all-knowing'. Then too, maybe they just made some of this up on their own, pulled from out of thin air, or based upon their own obvious non-existent research. Not a single taxonomical reference of literature is cited in many of these publications. With the advent of the internet, we are now besieged with college professors, high school teachers, and wanna-be taxonomist clicking away from behind a desk, stealing research done first-hand by legitimate workers and plagiarizing this information as part of their own new creation. What gives authors such as these the right to pick through, twist, change, and steal the hard work of others and never acknowledge the source from which they are now profiting upon, on the backs of others. Plagiarizing is something we are taught about in both lower and higher education. Now it seems that having a few letters attached to ones name or just having a loose association with an organization entitles one to do whatever they damn well please. Then we have the second set of clowns who attest to the magnificence of these plagiarized publications by putting their stamp of approval on these works, as their names too will now be plastered on the colorful and glossy dust jackets with glowing platitudes.

The Merriam Webster dictionary **defines the act of plagiarism as:** *"to steal and pass off the ideas or words of another as one's own".*

The website scanmyessay.com **defines plagiarizing as:**

Handing in an essay that you didn't write.

Or, handing in essays that one finds on the Internet.

Or, getting someone else to write an essay. This is plagiarism because the words and ideas in those essays don't belong to them.

Or, copying words or ideas from someone else's work, without giving credit.

Or, failing to put a quote in quotation marks.

Or, giving incorrect information about the source of a quotation.

Or, copying sentence structure but changing words around, without giving credit.

Or, copying the structure of the original author's arguments, as well as their ideas, and is plagiarizing.

Or, copying so many words or ideas from a source that it makes up the majority of your work, whether you give credit or not.

Or, to copy chunks of material from books, journals and other sources. Although they give credit, most of their work is made up from other people's work. It's certainly not original — this is plagiarism!

'If it were easy, anyone could do it'

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

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COLLECT THE UGLY AREAS

BY

KELLY RICHERS

Having collected across most of the western United States as I have, one would assume I might, by now, know what I am doing. This would be a continuing misconception, as I constantly find ways to do things

Typical ugly area trap. This one actually has a tree and a seep.

and places to do things that would have made my life easier along the way that I belatedly apply now to my collecting. I am sure this will continue.

One of the major discoveries I have made is that the "ugly" areas—and every locale has them lurking about, are oftentimes where the most interesting discoveries are made, especially regarding moth collecting.

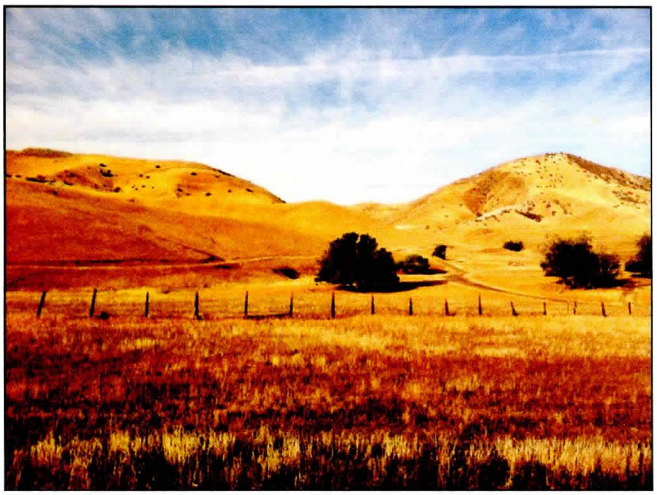
Across Arizona, for instance, there are what are called "sky islands" that beckon the collector from distant parts. Within these mountainous areas are an unusual and eagerly sought variety of great butterflies and moths to collect that frequently occur no other place within the continental United States. Between these areas (the Chiricahuas, Mt Graham, the Huachucas, the Santa Ritas, Copper Canyon, *etc.*) are vast areas of ugly desert. Few persons collect in these areas. This is just one example. Closer to home to me in California one has the lure of the high Sierra Nevada, with an ugly drive up the backside to get to some of the more desirable places. Driving to the San Gabriels or the San Bernardino Mountains would be similar. Miles and miles of ugly desert scrub, then a few streams coming down giving cottonwood trees, then more lush habitat with finally a few grasses and various pine and deciduous trees. Those of us who grew up in the eastern mountains where it actually rains occasionally head to these areas as fast as possible, hoping there is no breakdown in the "ugly areas" in between.

The potential for the "ugly areas" first came to me at one of the Lepidopterists' Society meetings at Sierra Vista Arizona, where we have had several meetings. At least one of the following: Chuck Harp, Charles Bordelon, Peter Jump or Dave Wikle (all of whom are apparently smarter than me) set a trap in the desert when the rest of us were scrambling up Ash Canyon, Carr Canyon Garden Canyon, and the other canyons of the Huachucas. In the traps set in the desert were easily one third different species than those caught in the mountains. For some reason, this incident struck me as novel, but it still took several years for the lesson to sink in. (You can tell these "desert rats" because they all have neat hats that look like they are leftovers from the Jurassic Age, so I eventually went and got one too).

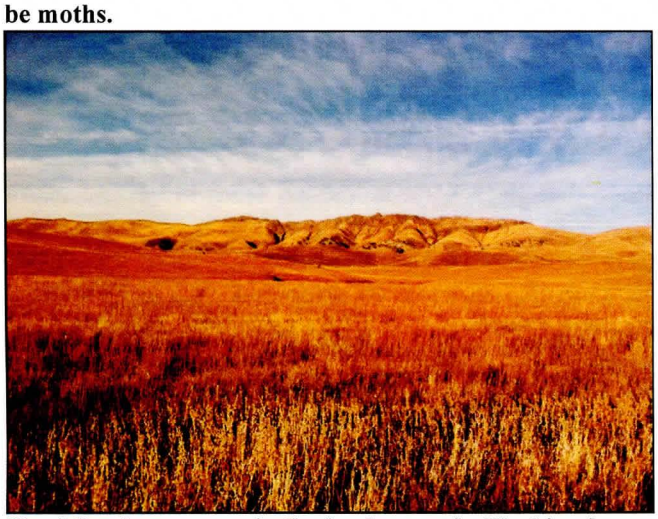
Since that time, I have learned from these and other experts to collect in those areas that do not seem to be quite as attractive as some of the "prettier" areas. Amazing catches can be gotten in the rugged desert canyons, scattered oak hills and juniper stands across the south and southwest.

Ugly area canyon trap. No water, but there must be some underground.

From Peter Jump I learned about all the Acrolophid moth species that are across some of these areas, frequently not found in some of the higher elevations. From Dave Wikle and Chuck Harp I learned of all the *Schinia* species that frequent these lower and often drier habitat niches. From Chuck I also learned of all the *Sympistis* species that are in the drier canyons that you frequently would pass by, especially in the summer months. From specimens Bordelon and Knudsen sent to Ron Leuschner I learned about the variety of species across the dry Texas area, and from



The kind of area most people bypass. There may not be many butterflies this time of late summer, but there will be moths.



Head for the canyons in the background. That is where the traps in the first photos were set, resulting in over 50 new Kings County California county records.

D.G. Marqua doing the same learned of the variety in West Texas, especially the Davis Mountains area. Places such as Concan on the Frio River, Big Bend National Park, many Utah locations and locations such as Bob's Gap and Pinyon Pines in California are not natural attractants for lepidopterists.

After having the opportunity to view some of the collections of the abovementioned persons, however, I am convinced that many of the more unusual species of moths that have been discovered reside in some little canyons protected from the harshest weather but still well within the vast locations you would pass by in most instances.

While a total list would be impossible to compile within these pages due to length, some notable species stand out.

Sphingicampa raspa comes to mind, found only in the United States in dry canyons in the southeast part of Arizona. It is large and beautiful and hard to miss if located. Virtually all the *Hemileuca* moths that occur in lower elevations are in the dry areas, even if they also occur at higher elevations, being strong fliers. Specimens of *hera, burnsi, magnifica, nuttali, eglanterina, piegleri, slosseri, stonei, tricolor, Hualapai, oliviae, diana, juno, chinatiensis* and *electra* all exist in remote canyons little collected. One of the most attractive sphingids of all, *Sagenosoma elsa*, occurs along roadsides you are on in Arizona on the way to the Patagonia Mountains or the sky islands of Arizona. In five trips to Arizona I never caught it because I bypassed these ugly areas.

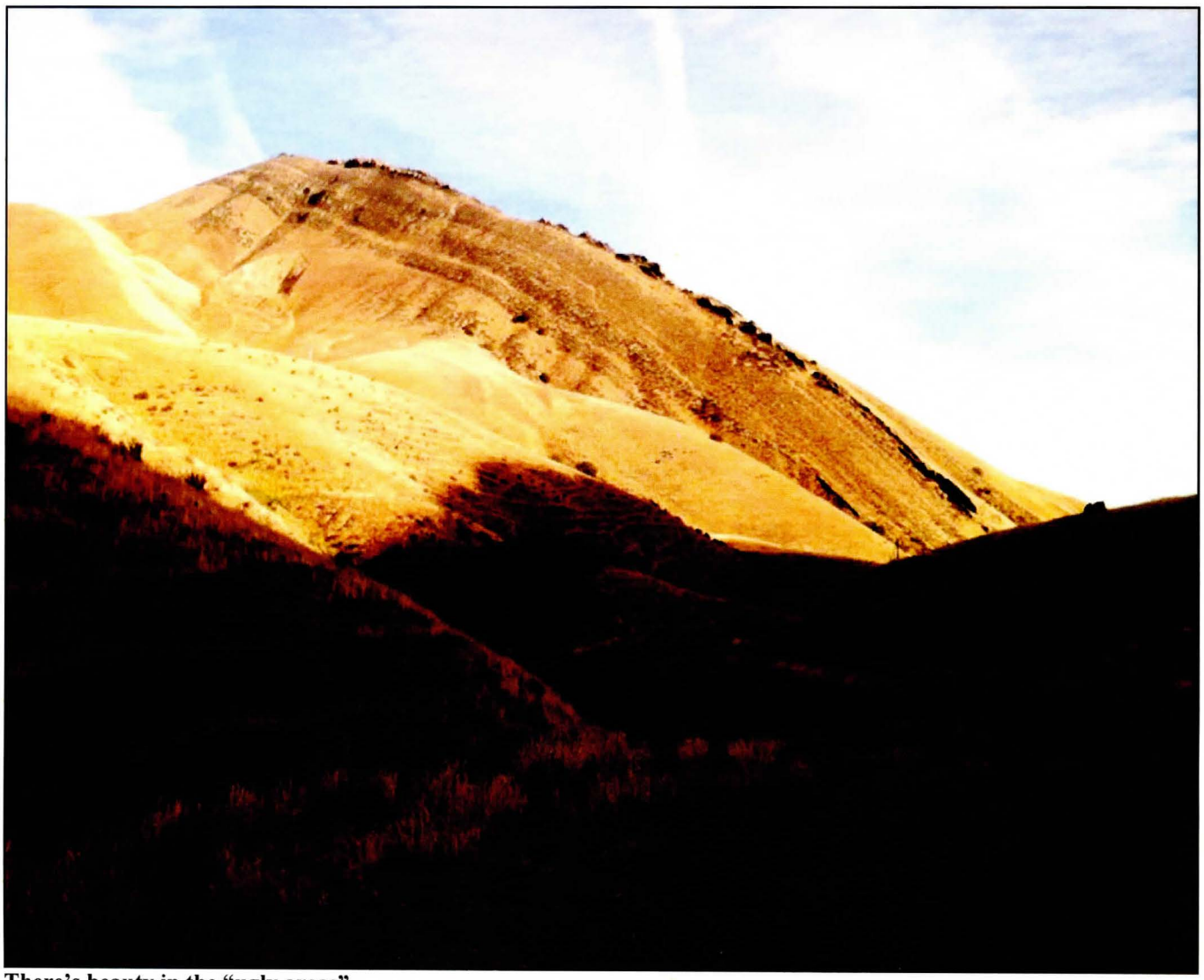
Proserpinus moths are also desert or grassland species, including *terlooii, juaninta* and *phaeton*.

For the butterfly collectors, many of the smaller skippers often referred to as roadside skippers are found in grassland areas or areas of very scarce vegetation. Some blues are also found in similar locations, and many sulphers wing across the same kinds of areas. Along the dry creekbeds are sometimes found many interesting brushfooted species, and later in the summer some come on the winds from Mexico and end up there also.

If you decide to collect the "ugly areas", schedule a trip for one of the nice days in March or April for your first trip. Places in the Mojave Desert, for instance, have unusual species that fly only in those months, and though frequently small, they are among the most attractive species flying. Moths such as most Crambinae species of pyralid, species such as *Diptychophora harlequinalis, Loxostege kearfottalis, Agathodes designalis, Nannobotys commortalis, Jativa castenealis, Mojavia achemonalis*, although small micro-moths, are hard to beat for beauty, while many noctuids of great beauty such as *Cerathosia tricolor*, western *Spragueia* and *Tarache* species, and a whole host of arctiid moths occur in the lower elevations often bypassed, especially in Texas.

Now, as for why many people are infrequently collecting in the 'ugly areas"! The biggest problem is the variable weather. When I started collecting in an ugly area locally, I was rudely made aware of this when a windstorm hit and none of the four traps I set survived intact. There was no indication of a change in the weather to forewarn me that a slight front coming through might do such damage. Now I anchor my traps in the ugly areas.

Another barrier is often finding a place to stay. Unless you stay in your vehicle, you may be miles from civilization – even motel proprietors tend to stay away from ugly areas – so you might need to preplan where you are going to stay. This can be difficult for a new



There's beauty in the "ugly areas".

area, for who can tell ahead of time where an attractive ugly area might arise? Now there is a contradiction in terms!

Lastly, this is a dangerous world. I would suggest that two of you go together. It turns out that not once, but three times, criminals who had major homicides charged to them have stayed within a few hundred feet of where I have collected. Not, fortunately, at the same time I was there. (San Bernardino Mountains, Apache County AZ and Kern County CA).

Also, as another late thought, TAKE WATER. There is always the chance that your vehicle will bog down in sand (happened to me), will get a flat in the middle of nowhere (happened to me several times) or you might want to stay another few hours because you forget to eat having fun collecting (happened to me more times than I care to remember). Ice is another good idea, and a large cooler with ice has multiple uses.

So, gird your loins this spring and summer and hit some of the "ugly areas". You will be amply rewarded.

(Kelly Richers, E-Mail: kerichers@wuesd.org)

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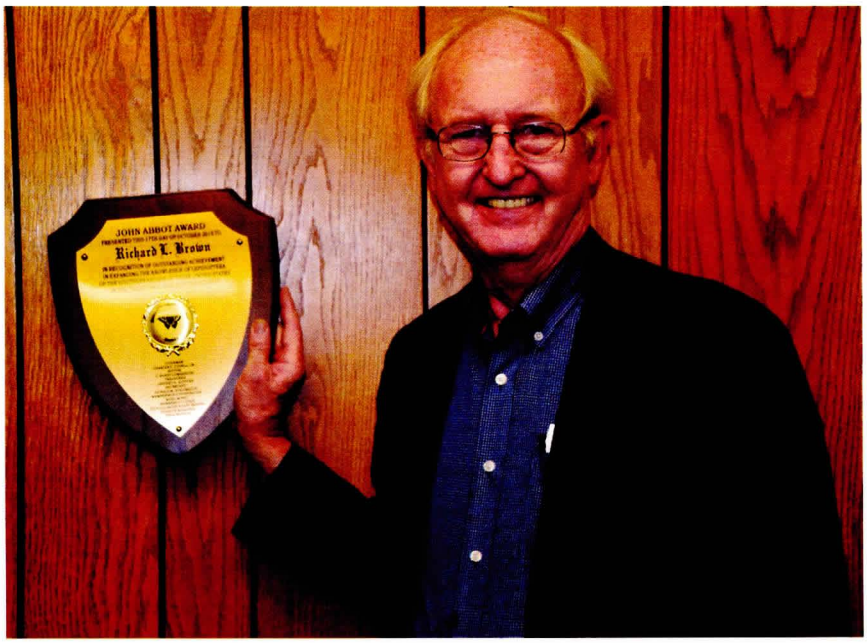
2015 RECIPIENT OF THE JOHN ABBOT AWARD

RICHARD L. BROWN



I am most honored to be the recipient of the John Abbot Award from the Southern Lepidopterists Society, and I regret that I was not at the meeting to receive this award in person. We are fortunate to live in the Southeast where there are so many opportunities to add to knowledge of Lepidoptera. Its wonderful that I can collect new species (and genera) in my backyard as well as in a wide diversity of unique habitats nearby, and this is true for many members of our society. I also recognize that those of us fortunate to have academic positions are blessed with great resources to support our research on Lepidoptera, and our accomplishments are often a team effort with students and colleagues. In the future I plan to finish several projects on Tortricidae and complete manuscripts on other taxa, along with continuing the development of the Mississippi Entomological Museum.

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AN EASY WAY TO CONSTRUCT QUALITY SPREADING BOARDS

BY

F. MATTHEW BLAINE

Fig. 1. Slices of Trailing Edge used to give the proper angle to spreading boards.

Fig. 2. Trailing Edge slices glued upright end boards.

Fig. 3. End view of spreading boards glued to the top of Trailing Edge slices which causes boards to have an upward angle.

I have been constructing my own spreading boards for 45 years now. I started by constructing them out of corrugated cardboard and white glue when I was a new teacher and had no money to spare. I moved up to using scrap wood and covering the pinning surfaces with Balsa. For years I worked on improving the wood covered with Balsa style by cutting a slight slant in the upright sides to give a slight up angle on the drying Lepidoptera wings. I found it very difficult to do this accurately using a hand coping saw but I worked at it for years and eventually was able to produce acceptable models. These boards required accurate cutting and patience.

A few years ago I needed to make some more spreading boards while I was in Florida. I went to a local hobby shop with the intention of buying some Balsa wood and some other thin wood to do my usual construction when I made a great discovery. They sell a cut of Balsa wood called "Trailing Edge" which is used for the construction of model airplane wings. It is wider on one side and tapered thinner on the other. It comes in three foot lengths. As soon as I saw it I realized that this would be perfect to use as the boards on which I pin my Lepidoptera. The angle would be perfect and I would not have to cut the end supporting members to the exact same angle! I bought some of the wider material (it came in several widths) and made some spreading boards using it as the pinning surface. It worked very well but it was not thick enough so I had to put additional balsa strips on top of it for wide winged specimens. This worked very well but it is a more expensive than regular balsa and stores usually do not stock large quantities of it. I decided to experiment.

I decided to cut thin sections of the Trailing Edge about ¼" to 3/8 of an inch wide across the width of the board (Fig. 1). I then glued them to the upright supports using them to set the angle for balsa boards (Fig. 2). After the glue dried I used slightly thicker balsa (1/4") for my wing pinning surfaces which I glued to the top of each set of cutting edge strips (Fig. 3 & Fig. 4). This made the construction much cheaper and a better use of materials.

I started making the upright ends out of some paint stirs that I got from the local hardware/building supply center. These are the large ones used for 5 gallon paint cans. I always ask for the larger ones when I purchase paint. I also used them for the rest of the parts needed originally but I now cut scrap 1/8" Masonite or left over plywood of the same thickness.

Over the years I have experimented with different ways of attaching the pieces together. I have tried all kinds of things from 1/2" brads to super glue but by far the best thing has been waterproof wood glue. It can be adjusted when wet but when dry it is strong and waterproof. There are several brands on the market which will work. I use Titebond 3 wood glue. Unlike some of the white glues it is more rigid when it dries. Once it dries it is waterproof and quite strong. The glue itself is actually stronger than the balsa wood.

Fig. 4. End view of smaller Trailing Edge glued to smaller spreading boards.

Fig. 5. Pipe insulating material.

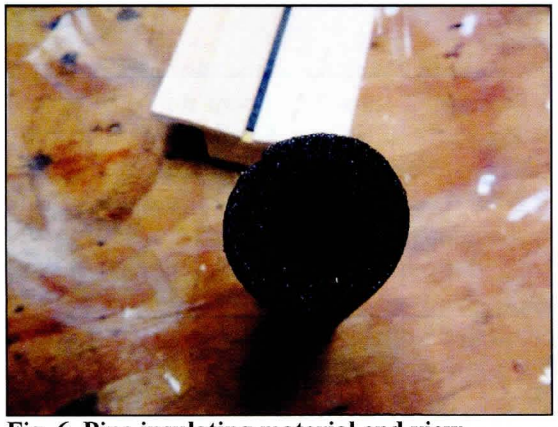

Fig. 6. Pipe insulating material end view.

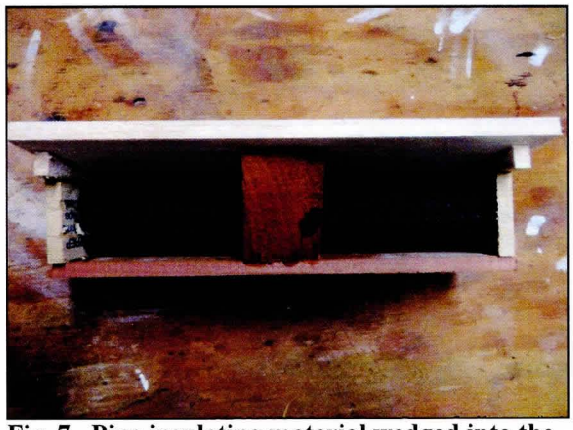

Fig. 7. Pipe insulating material wedged into the space between upright end boards.

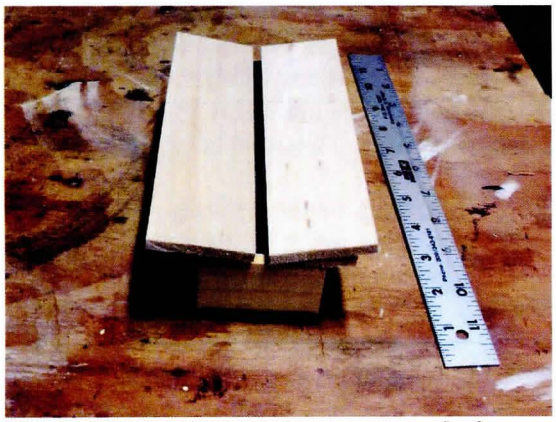

Fig. 8. Nine inch finished product ready for years of use.

Finally, I use another new discovery for the pinning material that holds the insect pin from the center thorax of the Lepidoptera and is located under the wing support boards. I use a length of pipe insulation for ½" pipe. I buy it for around 68 cents for a 5' piece (Fig. 5 & Fig. 6). I cut it just slightly longer than the space between the end uprights (Fig. 7). I simply center it under the wing pinning boards just under the space left for the bodies between the ends. When I first started using the pipe insulation I made my upright short so that the insulation material just fit in the space provided. I now make the upright end boards about an eighth of an inch higher so that there is an airspace between the open space left for the bodies in the spreading boards and the top of the pinning surface of the pipe insulation. As a final support I glue two braces under the middle of the spreading boards on each side. This is to eliminate sagging in the middle when I'm pinning insects (Fig. 8). The end result is that I am able to make many effective spreading boards of varying sizes inexpensively that last for many years of use.

A final suggestion: When you buy Balsa wood select the soft pieces. Hobby shops get a mixed shipment of hard (more dense) and soft wood. The soft, less dense is easier to insert pins in. I stick my fingernail in the wood to decide which to buy. If my fingernail goes in easily, I buy it.

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SLS 2015 BUSINESS MEETING MINUTES

Chairman Charlie Covell called the Southern Lepidopterists' Society (SLS) Business Meeting to order at 4:32 PM on Saturday, October 17, 2015, at the McGuire Center Conference Room, Florida Museum of Natural History, in Gainesville, Florida.

Members in attendance were:

James Adams	John Douglass	Steve Mix
Terry Arbogast	Rick Gillmore	Dave Morgan
David Auth	John Hyatt	Tom Neal
Bob Belmont	Daniel Hyman	Lary Reeves
F. Matthew Blaine	Leroy Koehn	Bill Russell
John Calhoun	Debbie Matthews	Jeff Slotten
Charlie Covell	Jackie Miller	Charles Stevens
Dennis Currutt	Marc Minno	Andy Warren

Charlie Covell began by presenting a summary of Minutes from the 2014 SLS meeting.

Treasurer's report - Jeff Slotten reported that the Society currently has 163 paid members (compared with 144 last year at this time).

SL NEWS -

1) Discussion of the SLS quarterly began with members' strong affirmation of the NEWS' superb quality and interesting contents. Jeff Slotten cautioned that covering its recurring cost continues to rely on the generosity of donors. Jeff Slotten and Charlie Covell suggested that they will contact Editor Barry Lombardini with ideas about reducing the length and cost of the NEWS. Marc Minno suggested that a cap be imposed on the number of pages in each issue. Rick Gillmore advocated finding a company which might print the NEWS less expensively.

2) Leroy Koehn promoted the option of offering an electronic version of the NEWS. Dave Morgan indicated that some members would prefer to receive the quarterly electronically, and indicated that he would be agreeable to generating an electronic version from material communicated to him by Editor Barry Lombardini. James Adams and Leroy Koehn offered additional ideas about the ease of converting the NEWS to electronic form.

3) Steve Mix and others emphasized the benefit of continuing to receive print copies of the NEWS. James Adams pointed out that the SLS quarterly is lengthier and constitutes more of a magazine than do most state newsletters. Charlie Covell asserted that hard copy will not be abandoned despite the consideration of electronic options.

Membership -

1) Marc Minno spoke briefly about on-going recruitment efforts.

2) Steve Mix recommended that the Society should offer Life memberships. A lively discussion of pros and cons ensued. Because the SLS Constitution does not specify categories of membership, this action would not require a constitutional change. Charlie Covell and Leroy Koehn cautioned, however, that such a decision can prove to be an unwise liability for an organization. Steve Mix suggested that, if the cost of Life membership were high enough ($1K), it might be of benefit to the Society and to some individuals. A committee was formed consisting of John Douglass, James Adams, and Steve Mix, and, after their brief discussion, a recommendation was made and the motion passed: the Society will begin offering Life memberships ($1K). Andy Warren advocated that this subject should be revisited and reevaluated in upcoming years.

Elections -

1) Andy Warren announced the results of this year's election of SLS officers, to take effect on January 1, 2016.

Chairman - John Douglass
Treasurer - Jeff Slotten
Secretary - Don Stillwaugh
Membership Coordinator - Marc Minno
Members-at-Large - James Adams, Eric Anderson
Website Manager - Dave Morgan
NEWS Editor - J. Barry Lombardini

2) Charlie Covell announced that the winner of this year's Abbot Award is Richard Brown of Mississippi.

State Coordinators -
1) Appreciation was expressed by the members present for the detailed reports submitted by coordinators for Georgia, North & South Carolina, Texas, and other states.

2) It was suggested, too, that it may be useful to ask state reporters whose contributions have trailed off whether it might be desirable for new people to step in to fill these roles.

Meetings -
1) Debbie Matthews offered that she and Jackie Miller will work to determine a favorable date for 2016's joint meeting with the Association for Tropical Lepidoptera in Gainesville.

2) Marc Minno reported that, at the recent Board meeting, it was agreed that the SLS should continue to meet in Gainesville annually, with the possibility of annual 'field meetings' at other sites. Charlie Covell expressed his hope that more enthusiasm might be directed toward participation in field trips.

3) A one-day "Insect Expo" will be held in Orlando on September 28, 2016, as part of the planned International Congress of Entomology (ICE 2016). Bob Belmont will attend the meeting; he read an invitation to SLS members to become involved. James Adams added that two people will be staffing a Lepidopterists' Society booth there.

Announcements - Tom Neal's family was warmly thanked by the membership for their generous provision of lunch during our meetings. Also on the Society's behalf, Rick Gillmore thanked Charlie Covell for his very capable service as Chairman.

The meeting was adjourned at 5:32 PM.

Respectfully submitted,
John F. Douglass
Secretary *pro tem*

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"FALL" TREES OF LUBBOCK, TEXAS (December 2, 2015)

NEW HOST PLANT RECORDS FOR THE SILVERY CHECKERSPOT (CHLOSYNE N. NYCTEIS) (NYMPHALIDAE: NYMPHALINAE) IN THE SOUTHEASTERN UNITED STATES

BY

MARC C. MINNO

Although common in much of the eastern United States, the Silvery Checkerspot is a rare butterfly in Florida. It has only been found at a few places in Jackson and Gadsden counties (Minno 1994, Calhoun 1996) in the panhandle. Very little is known of the basic biology of the Silvery Checkerspot in the southeastern United States.

Mary Ann Friedman and I visited Florida Caverns State Park, located just north of Marianna in Jackson County, on May 23, 2010, to look for butterflies. On the short walk from the parking area to the Visitor Center near the entrance to the caverns, we located an old nest and three last instar caterpillars of the Silvery checkerspot on Hairy Leafcup [*Smallanthus uvedalia* (L.) Mack. ex Small, formerly known as *Polymnia uvedalia*: Asteraceae] (Fig. 1). These mature larvae were feeding on separate leaves and were not in a silk nest.

Hairy Leafcup is locally common and widely distributed in northern and central Florida (Wunderlin & Hansen 2008). It grows naturally in mesic forest habitat around Gainesville, Florida. Years ago I planted a few in my yard in Gainesville based on a gardening tip from Tom Neal. Hairy Leafcup is a terrific perennial plant for butterfly gardens because it naturalizes easily, needs no watering, has lovely flowers, and blooms nearly all year round. I highly recommend it as a carefree native plant that attracts butterflies to southern gardens.

At Florida Caverns, the Silvery Checkerspot occurs in the forest around the Visitor Center and along roadsides in the vicinity. The understory of the forest between the parking area and the Visitor Center is periodically mowed, which keeps shrubs low and allows a diversity of herbaceous plants, such as Hairy Leafcup, to thrive. There are a number of other potential hosts present at Florida Caverns State Park, including a sunflower (probably *Helianthus strumosus* L.) that grows in patches along the main park road.

On August 23, 2014, I visited Ocmulgee National Monument near Macon in Bibb County, Georgia, where I saw one adult Silvery Checkerspot flying near the Ocmulgee River. This female landed on a Cocklebur (*Xanthium strumarium* L., Asteraceae) plant growing on a sandy bank of the river, then flew away. I happened to notice a partly eaten leaf on the Cocklebur and when I turned it over there were more than 80 small larvae of the Silvery Checkerspot resting together on the underside (Fig. 1). There was no webbing over the larvae. This was the only Cocklebur plant that I could locate in this area.

Cocklebur has a spiny fruit that is naturally dispersed by water or in the fur of animals. It grows in sunny areas along river banks, but is also a common pest plant in cultivated fields and weedy areas. Cocklebur contains a powerful glycoside (carboxyatractyloside) and other toxins. Chickens, pigs, horses, cattle, and humans are known to have been poisoned from eating the seeds and seedlings of *X. strumarium* (Kates *et al.* 1980; Turgut *et al.* 2005).

Ogard and Bright (2010) mention sunflowers, rosinweeds, and Giant Ragweed as the preferred host plants in Alabama. Scott (1986) lists the following hosts of the Silvery Checkerspot: *Actinomeris alternifolia, Aster puniceus, Aster umbellatus, Conyza canadensis, Helianthus annuus, Helianthus decapetalus, Helianthus divaricatus, Helianthus strumosus, Helianthus tuberosa, Rudbeckia laciniata, Solidago* species, *Verbesina helianthoides*, and *Verbesina virginica*. Opler and Krizek (1984) state "*Actinomeris* is utilized most often (PA, MD), but also *Helianthus decapetalus, Helianthus tuberosus, Helianthus strumosus*, and *Aster puniceus* are also fed upon. Farther west, other composites such as *Rudbeckia* and *Verbesina* are eaten." Much more investigation is necessary to fully understand the biology of the Silvery Checkerspot in the southeastern U.S.

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Fig. 1. Host plants and larvae of the Silvery Checkerspot (*Chlosyne nycteis nycteis*). Upper left: Hairy Leafcup (*Smallanthus uvedalia*). Lower left: Cocklebur (*Xanthium strumarium*). Upper right: last instar larva feeding on Hairy Leafcup at Florida Caverns State Park, Jackson Co., Florida. Lower right: young larvae feeding on Cocklebur at Ocmulgee National Monument, Bibb Co., Georgia.

A TALE OF TENACITY: A MAJOR LIFE TARGET FINALLY COMES INTO VIEW

BY
KATHY C. MALONE

A bucket list trip out west to see the major national parks ends with a dream come true! But just by a whisker…it nearly becomes a nightmare.

More than a year ago my husband, Bill Malone, began making reservations for a nearly two-month, cross-country road trip out west. Partway into the planning I realized if we were going that far, why, we might as well time it for the flight of the Chiricahua Pine Whites (*Neophasia terlootii*) in Arizona. I'd always wanted to photograph that butterfly since my interest in Lepidoptera began nearly 25 years ago – especially the colorful orange, yellow, black and red females. So I kindly asked my husband to change a few of the reservations to later in the season so we would end up in Arizona toward the end of October. Plus the parks would be less crowded.

Chiricahua Pine White (dorsal, male)

That done, we embarked on Sept. 18 and whirl-winded our way through the western sites, including Yellowstone, the Grand Tetons, Redwoods, Yosemite, and Sequoia.

Ken Kertell of Tucson had visited Florida a year or two ago where Bill Berthet (of Jacksonville) and I found him several life targets. Ken said to let him know if I ever got tox Tucson and he would help me find some targets. That I did and on the fine morning of October 28 we were off with high spirits and great anticipation…on our way into Ft. Huachuca to find my coveted butterfly.

Chiricahua Pine White (ventral, male)

The weather was great that morning, after threatening clouds cleared. The weather was forecast to turn bad that afternoon and into the following day when we were scheduled to leave Sierra Vista. So, better get this done, that day, in the sunny window of a few hours on either side of noon. That's when the butterflies poetically flutter from the Ponderosa Pines and into streams and mud to puddle. High-flying males at Mt. Lemmon and Madera Canyon had already teased us a few days before, making it imperative we get this butterfly on the ground, today!

Chiricahua Pine White (ventral, male). This male was rescued from the water on the edge of a rock. Probably did not last very long after the rescue.

As we wound our way through the army base, my heart raced with excitement. I knew the butterfly was flying…had seen reports of it weeks and days before. Ken said he'd take us to Huachuca Canyon since it was nicely accessible. One had to hike several miles up Garden Canyon to find the whites, and by going to Huachuca Canyon instead, we could drive much closer to where the butterflies were, even though they weren't as common there as in Garden Canyon. Oh how my mouth watered as I imagined savoring the big moment!

When we reached the canyon entrance we encountered a locked gate that shouted, in all caps, "DO NOT ENTER – LIVE BEAR SIGHTED." How could this be happening? My heart sank as low as I thought it could go. So we went over to Garden Canyon, settled that we'd hike. But the first gate into the canyon also was locked.

Bill and I had driven 6,500 hundred miles over more than 30 days to find two locked gates. My face must have turned red. I know my eyes watered, my mouth dried, and my heart sank even lower. We walked around and talked around in circles, scratching our heads. What to do... We toyed with driving to Madera Canyon near Tucson, but clouds would have gathered by then, we figured, and it would be late when we got there. Ken thought maybe we should try nearby Miller Canyon, although he never had.

Then all of a sudden Ken made an executive decision to return to Huachuca Canyon. Let's just walk in. With dogged determination, my husband turned the car around and we pointed ourselves toward that place. We were going to see this butterfly!

The gate remained locked upon our return. But a birder and a few contractors there wanted in, too. But would the Military Police let civilians in with a bear up there? We decided no, we'd have to watch while the MP waved the contractors in, but not us.

But oh my gosh! She waves us in also and assures us the gate would be open when we came back out.

Long story short, hero Ken finds about a half dozen puddling females and males. Whew! Thanks, Ken, for taking us back to the Huachuca Canyon entrance! I don't have to dream anymore.

Chiricahua Pine White (dorsal, female)

Chiricahua Pine White (ventral, female)

[The author thanks Jim Brock, and Dean and Sally Jue, for sighting tips.]

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

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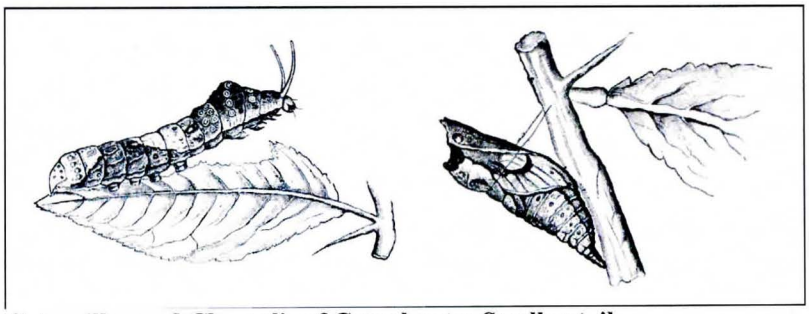
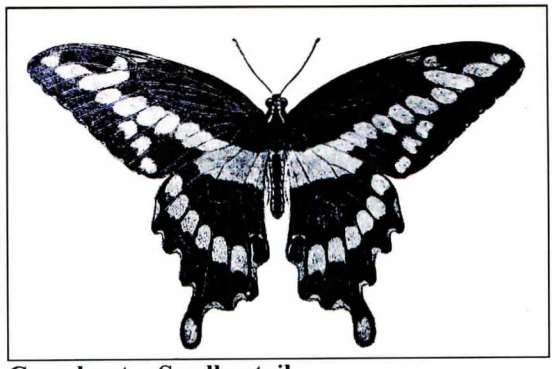


Caterpillar and Chrysalis of Cresphontes Swallowtail

Among the Moths and Butterflies by Julia P. Ballard
[printed by G.P. Putnam's Sons, New York 1890]



Cresphontes Swallowtail

"A little fluttering noise as I passed, last February, a shelf where chrysalids are kept under glass, revealed a spring or rather, *winter* 'opening.' The first butterfly to appear from among the many housed sleepers was from a chrysalid long and carefully watched, and which came out February 21, 1884. It was the Cresphontes butterfly..." Julia P. Ballard

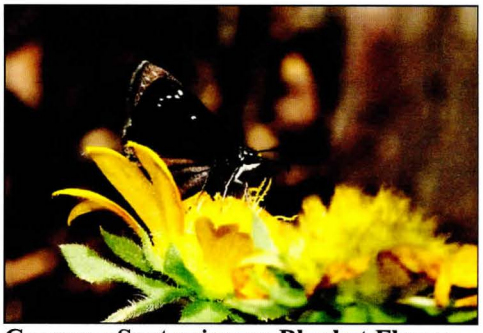
TEENY TINY TENNESSEE COURTYARD REAPS RESULTS

BY
KATHY C. MALONE

Having moved recently from Florida to a small townhouse with a minute accompanying green space in urban Spring Hill, Tennessee, I was doubtful about the diversity of insect species I could attract. Even though there was an undeveloped, disturbed area down the way and a preserved wetland, insect visitors would have to fly relatively far, and navigate over a six-foot privacy fence to find the two very small gardens I would have room to create. So I made Monarchs my number one priority, hoping swamp and common milkweed would grow tall enough for the butterflies to find.

Common Sootywing on *Rudbeckia sp.*

But something miraculous happened when I enhanced nectar diversity and let the seed bank express itself in the small gardens. One is 8' x 5' and the other 12 x 5' within a 10' x 28' grassed courtyard. I documented 25 species of butterflies in the garden in 30 days, between mid-July and mid-August, along with a number of wasp, bee, and moth species.



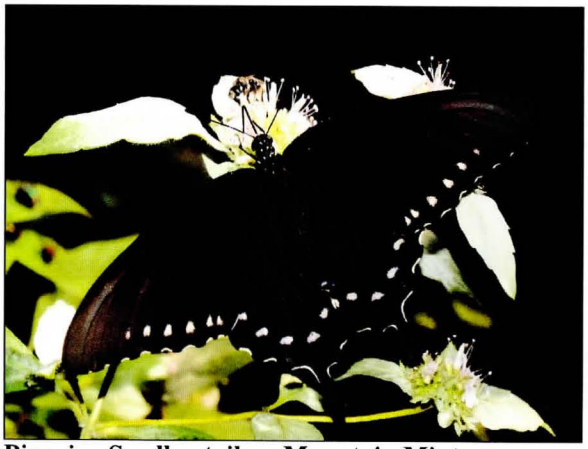
Common Sootywing on Blanket Flower

Planted Mountain Mint, Joe-pye Weed, Blanket Flower and *Rudbeckia sp.* became calling cards for the tiny habitat. At first the Mountain Mint astonished me, attracting swallowtails and skippers, and representatives of all the other butterfly families in between, except for metalmarks. Then when the Joe-pye Weed came into flower, it was the heavy favorite. Volunteer hosts of Lamb's Quarters, clovers and Hackberry appeared on their own and they, too, attracted species.

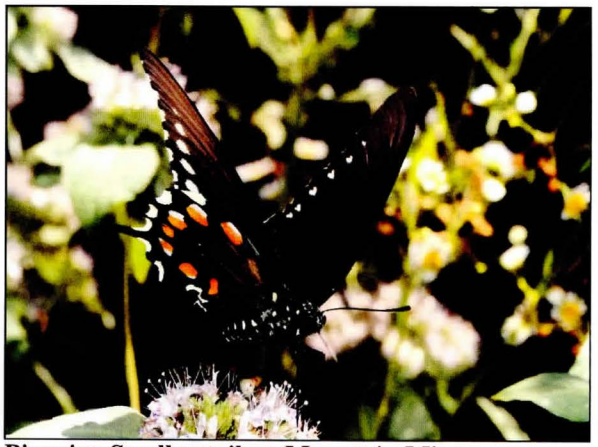
Clouded Skipper on Blanket Flower

I peeked outside often to scan for new finds. Always camera at the ready, I'd run out and grab photos. I spied Common Sootywing caterpillars on the Lamb's Quarters, Eastern Tailed-Blue on the clovers, and ultimately a nectaring Monarch on the milkweed. I soon found Monarch caterpillars. American Snouts visited for nectar. Maybe they will oviposit on the Hackberry next season.

One of the most delightful surprises was a Clouded Skipper that zipped in as I changed out the hummingbird feeder. It zeroed in on the Blanket Flower. I'd not seen that species of butterfly in the neighborhood. Adult Common Sootywings liked the nectar of the Blanket Flower, too.



Pipevine Swallowtail on Mountain Mint



Pipevine Swallowtail on Mountain Mint with pollen

It's fun to see what finds the enclosed space. How do they find it? Is there a sensory thing (smell?) going on? Or do these insects simply stumble upon the pollinator-attracting plants in my yard as they negotiate a sea of asphalt, the homogenous neighborhood landscape, and the privacy fence? Regardless of how they find their way, I am pleased to support a small piece of earth they can call home.

Butterfly Species List:

1. Eastern Tiger Swallowtail (*Papilio glaucus*)
2. Spicebush Swallowtail (*Papilio troilus*)
3. Pipevine Swallowtail (*Battus philenor*)
4. Black Swallowtail (*Papilio polyxenes*)
5. Checkered White (*Pontia protodice*)
6. Cabbage White (*Pieris rapae*)
7. Orange Sulphur (*Colias eurytheme*)
8. Cloudless Sulphur (*Phoebis sennae*)
9. Eastern Tailed-Blue (*Cupido comyntas*)
10. Gray Hairstreak (*Strymon melinus*)
11. American Snout (*Libytheana carinenta*)
12. Gulf Fritillary (*Agraulis vanillae*)
13. Common Buckeye (*Junonia coenia*)
14. Red Admiral (*Vanessa atalanta*)
15. Question Mark (*Polygonia interrogationis*)
16. Pearl Crescent (*Phyciodes tharos*)
17. Common Sootywing (*Pholisora Catullus*)
18. Monarch (*Danaus plexippus*)
19. Sachem Skipper (*Atalopedes campestris*)
20. Fiery Skipper (*Hylephila phyleus*)
21. Clouded Skipper (*Lerema accius*)
22. Dun Skipper (*Euphyes vestris*)
23. Silver-spotted Skipper (*Epargyreus clarus*)
24. Horace's Duskywing (*Erynnis horatius*)
25. Variegated Fritillary (*Euptoieta claudia*)

Orange Sulphur on Joe-pye Weed

Sachem Skippers on Joe-pye Weed

Red Admiral on Mountain Mint

Common Buckeye on Mountain Mint

Cloudless Sulphur on Joe-pye Weed

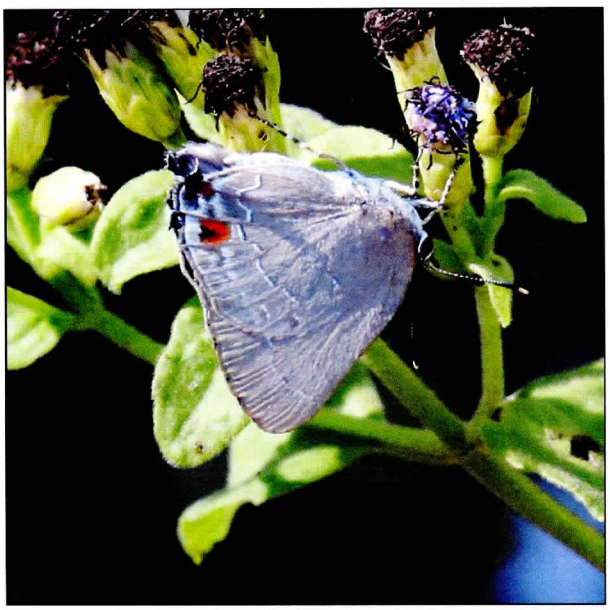
Common Sootywing larva on Lamb's Quarters

NEW US RECORD HAIRSTREAK

BY

MIKE RICKARD

A Shadowed Hairstreak (*Michaelus ira*) was found and photographed by Mike Rickard while leading a Texas Butterfly Festival field trip to Hugh Ramsey Park in Harlingen, Cameron Co., TX., on November 1, 2015. This is the first known US record for this species, which occurs on the east and west coasts of Mexico and hence south to Argentina. It was thoroughly photographed by all field trip participants, but intensive searching on the following days failed to relocate it.



Shadowed Hairstreak (*Michaelus ira*)

Shadowed Hairstreak (*Michaelus ira*)

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SPRING FIELD TRIP, WESTERN PANHANDLE, April 29-May 2, 2016

A warm invitation is extended to members and friends to participate in a planned field meeting at Florida's western extremity. Three days and nights of photography and collecting are planned along the Perdido River, on lands administered by the Northwest Florida Water Management District (NWFWMD).

The Perdido River valley in westernmost Florida.

The Perdido forms the border between Florida and Alabama. Its upper reaches comprise a unique 'shifting sand' river system; its lower portion is a characteristic blackwater stream. Habitats in the watershed include upland hardwoods, pine flatwoods, floodplain swamps, seepage slopes (pitcher plants, sundew), estuarine marshlands, wet prairies, coastal dunes, and beaches. Canoeing and other recreational activities are abundantly available.

The area's moth fauna is poorly known, and participants' use of MV and blacklighting gear will be especially welcome (new moon is May 6). Permits for the taking of voucher specimens are being arranged through District headquarters.

Rough camping is widely permitted on District lands. Riverside campsites are also available by making reservations on-line (www.nwfwmd.state.fl.us). Additional meeting details, including maps and a list of local motels, will be provided in the March NEWS. Coordinator: John Douglass [jfdouglass7@gmail.com; (419) 389-9902].

PHOTOS FROM VERNON AND CHARLOTTE BROU

Legendary New York City Radio Station phenom Paul Cavalconte visiting Vernon and Charlotte Brou on April 27, 2009, in photo (L to R) Michael Skinner, Marc Loponte, Paul Cavalconte, and Vernon A. Brou Jr. Paul spent a couple of hours chasing *Papilio palamedes* around the Abita Entomological Study Site.

Howard Grisham (left) visiting Vernon (right) and Charlotte Brou (behind the camera) at the Abita Entomological Study Site on October 2, 2015.

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A PARTING NOTE FROM YOUR OUTGOING SOUTHERN LEPIDOPTERISTS' SOCIETY CHAIRMAN

First, congratulations to John Douglass, our incoming Chairman for the next two years. John is conscientious and energetic, and got things started even before our annual meeting ended.

And congratulations to Richard L. Brown, our John Abbot Award winner. Richard has been a wonderful head of the Mississippi State University's Entomological Museum for many years, a major contributor on the moths of the family Tortricidae, the host of the Moth Photographers' Group, and a terrific harmonica player. He with James Adams at the piano gave us great entertainment at the Covell residence during the Friday night party at one of our Kentucky Lepidopterists Meetings some years back. Ah, those were the days.

Now a reminder about the John Abbot Award procedures. We normally have a vote every two years, and there are three nominees presented: the two who did not win the last time the plaque was bestowed, plus a new nominee to be chosen prior to the months before the annual meeting where the next award will be given. At this point we have Harry Pavulaan and Debbie Matthews as nominees for the next award, and a new nominee to be added will be called for during the course of 2016.

A few more comments about the annual meeting, which again was held in conjunction with that of the Association for Tropical Lepidoptera. This has been working well lately, and we plan to have the meetings next year at the McGuire Center again. One fall meeting that has to be kept in mind when we plan: ICE (International Congress of Entomology) will be held with several thousand entomologists attending in Orlando Sept. 25 - 30. Perhaps we can boost our attendance with faraway SLS and ATL members visiting Florida for ICE and our meetings as well.

Jackie Miller and Debbie Matthews did a splendid job of planning and preparing for the meetings this year. I want to thank them for their devoted service to both organizations. Tom Neal and family provided a delicious Subway lunch on Saturday, which saved our leaving the building and kept meeting expenses minimal. Thanks to James Adams for his touching tribute to our dear friend, Irving Finkelstein. And thanks to all of you who contributed to make the meetings so successful by assisting with registration, presenting excellent papers, adding to our Paynes Prairie moth survey by collecting and identifying specimens (7 new additions to our list so far from the October 16 field trip), and contributing door prizes for the banquet "finale."

I am most grateful and amazed by the devoted and excellent "newsletter" editorship of Barry Lombardini. Many, many thanks, Barry; you contribute greatly to our knowledge and also keep up our interest in Lepidoptera. Thanks too to Vernon Brou and Gary Noel Ross for their regular contributions to our magazine.

It has been a pleasure serving as the SLS Chairman for two years. Now, John and Board members: it's up to you to increase our activities and membership in the two years to come.

Best regards to you all, Charlie.

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MANY THANKS FOR THE FOLLOWING DONATION AND LIFE MEMBERSHIPS TO THE SL SOCIETY

Matthew Blaine (Benefactor+)

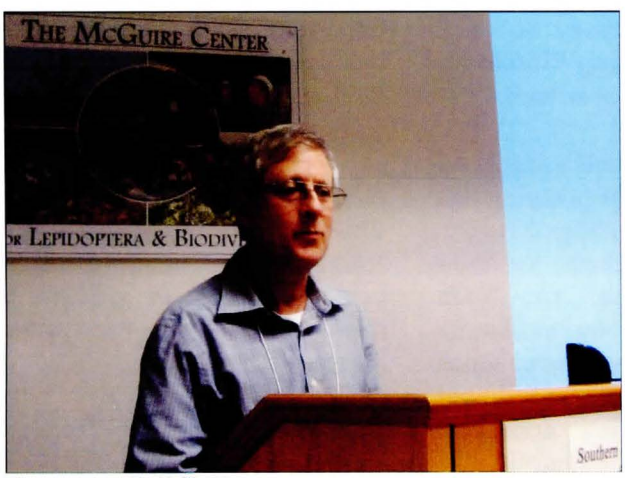
LIFE MEMBERSHIPS ($1,000)

John E. Douglass ***Stephen Mix***
David L. Auth

MORE PHOTOGRAPHS BY CHARLIE COVELL AT THE SLS MEETING IN GAINESVILLE, FL, OCTOBER 16 - 18, 2015 AND THE BUTTERFLYFEST

John Douglass talks with Betty Covell; the Arbogasts

Another photo of the meeting



Treasurer Jeff Slotten reports

Meeting session in McGuire Center classroom

Jackie Miller and Tom Neal at the SLS table (ButterflyFest 2015)

Tom Neal (ButterflyFest 2015)

CONGREGATIONS OF BUTTERFLIES

BY

J. BARRY LOMBARDINI

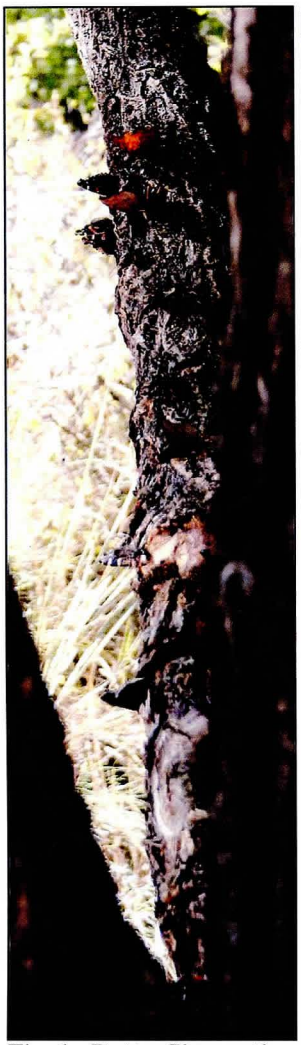


Fig. 1. Butterflies resting on the trunk of a Cedar Elm tree.

Fig 2. Butterflies resting on the trunk of a Cedar Elm tree.

Fig. 3. Monarchs roosting in the branches/ leaves of a Cedar Elm tree.

While visiting Buffalo Springs Lake (4 miles east of Lubbock, Texas) this Fall (October 14, 2015) and walking in a favorite very small canyon I came across the following great numbers of 3 species of butterflies congregating next to each other on the tree trunks of Cedar Elm (*Ulmus crassifolia*)(Texas Elm). The 3 species were: the Red Admiral (*Vanessa atalanta*) (7-10 on many tree trunks – probably hundreds in the area), the Goatweed (*Anaea andria*) (3-4 on tree trunks – probably 40-50 in area), and the Question Mark (*Polygonia interrogationis*) (2-3 on tree trunks – probably 30-40 in area). All of these butterflies were gathering on the tree trunks usually between 3-7 feet off the ground. The time of day was 1:15-2:30 p.m, temperature 84°F, and no wind. Figs. 1 and 2 show the butterflies resting on the Cedar Elm tree trunks. My approach to take photos of the butterflies greatly disturbed them, however, some would return in about a minute. Each disturbance reduced the number that returned.

On the trunks of the Cedar Elm trees were not only butterflies, but also wasps, flies, beetles, and ants. While there was no apparent attractant such as sap on the trunks all these insects appeared to be interested in some chemical/element on the bark of the trees.

Not to be overlooked but clearly outnumbered were 2 Mourning Cloaks (*Nymphalis antiopa*) that were sometimes competing for the same areas on the tree trunks as the other 3 butterfly species.

Fig. 4. Solitary Monarch resting on Desert Willow leaves near ground.

The Cedar Elms that these 3 species of butterflies were congregating on were mainly in semi-sunlight. Interestingly, about 20 yards away were a number of Desert Willow (*Chilopsis linearis*), Cedar Elm, and Salt Cedar (*Tamaraix ramosissia*) trees that were in the shade contributed by their foliage. Roosting in this area and on all three of these trees were Monarchs (*Danaus plexippus*) - probably about 75-100. The Monarchs in general were much higher in the branches/leaves of the trees and not on the tree trunks (Fig. 3) though one lonely monarch (perhaps ostracized) was on Desert Willow near the ground (Fig. 4).

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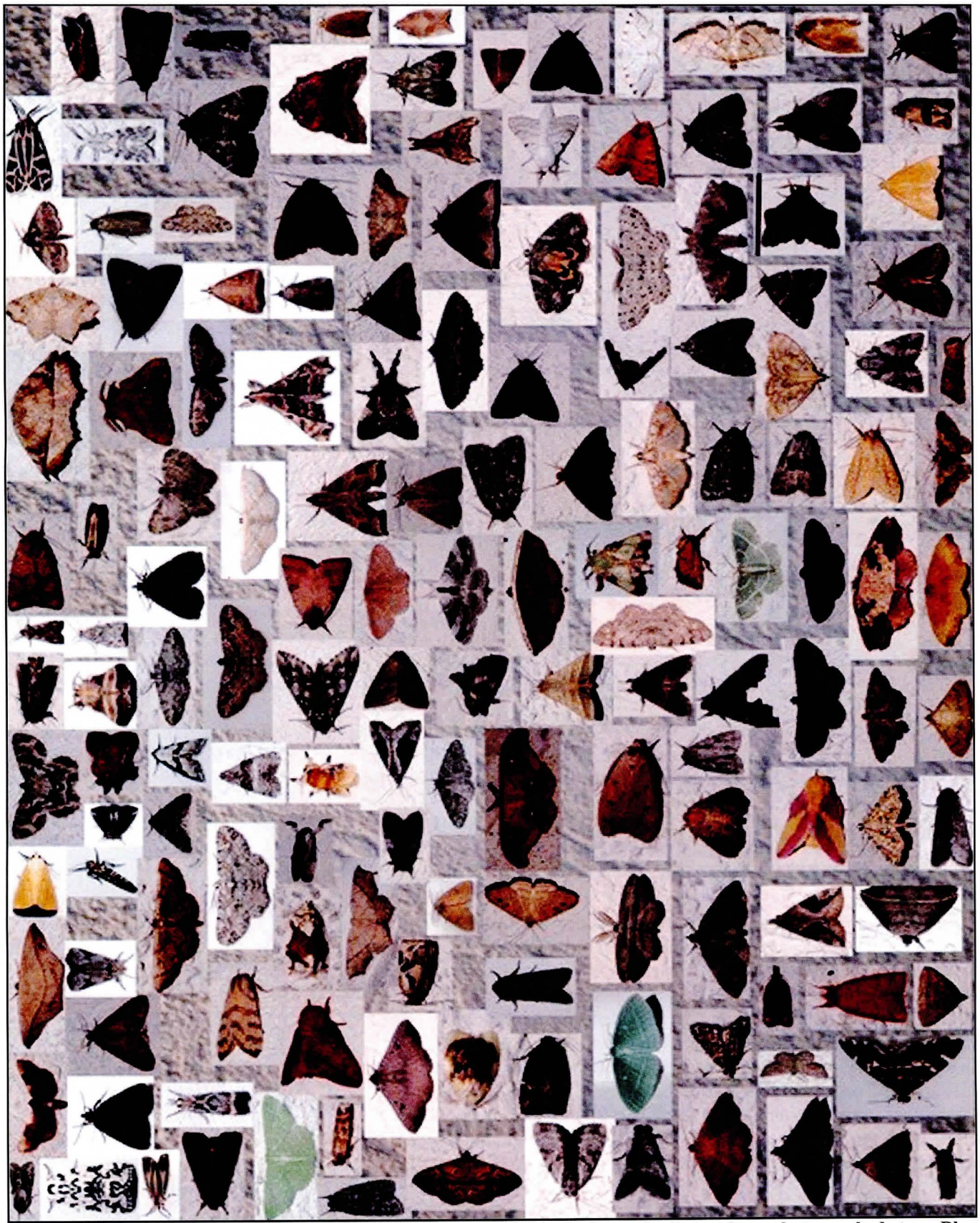


***Mothing*, Fig. 1. This montage shows some of the beauty and diversity of the moths that we have photographed at our Blue Heron site in Clarke County, Georgia. It contains 154 species and one duplicate photograph. As you try to find the duplicate, imagine the task of identifying and tabulating over 140,000 moth images that we have from this site. The montage contains only about an eighth of the total 1,237 Lepidoptera species we have photographed at the site's lights since we began *Mothing* there in 2010.**

FIND YOUR DARK SIDE: INVITATION TO JOIN DISCOVER LIFE'S *MOTHING* PROJECT

BY

JOHN PICKERING

Abstract – Here I give an overview of Discover Life's *Mothing* project and invite Southern Lepidopterists' Society members to join this effort and its educational component, *Moth Math*. Our goals are to study moth communities and to teach how to collect, analyze, and present data. By working across numerous study sites and with historical collections, we designed *Mothing* to understand how latitude, weather, land use, and other environmental factors affect moths and how their life history parameters, behavior, populations, and communities change over time. Discover Life seeks your participation at all levels. Please help us photograph and collect creatures that come to lights; integrate specimen data from existing collections, both public and private; build and test local annotated checklists and identification guides; provide taxonomic expertise in specimen identification, and last but not least, work with your local schools and nature centers to involve the public in natural history research and improve the teaching of science and quantitative skills.

Discover Life – www.discoverlife.org grew out of the Insect Diversity Project started in 1992. The mission of Discover Life is to assemble and share knowledge in order to improve education, health, agriculture, economic development, and conservation throughout the world. Its servers at the University of Georgia and University of New South Wales freely provide users with taxon pages, identification guides, maps, albums, labels, seasonality graphs, and other resources. Since inception, Discover Life has served over 3.5 billion pages and currently has approximately 800,000 users monthly. It integrates over 1.2 million species names, 650,000 species maps, 2 million images, and 500 identification guides contributed and maintained by organizations and individual participants **(See Fig. 1**, facing page**)**.

***Mothing* project** – www.discoverlife.org/moth – After marginally successful attempts to develop citizen science projects to study ants, bees, lichens, goldenrod associates, and plants, Discover Life started to study moths in 2010. Simply, wow! Moths are arguably the best group of organisms on the planet for understanding environmental change. Everyone should be exposed to their beauty, diversity, and the mysteries about life that they are revealing. We have developed research protocols involving digital cameras and Discover Life's online tools to enable a network of people to work together efficiently to photograph specimens, identify them, and analyze results. *Mothing* has now collected 550,000 photographs from 22 study sites in eastern North America and one in Costa Rica, documenting over 3,000 moth species in total **(Fig. 2)**.

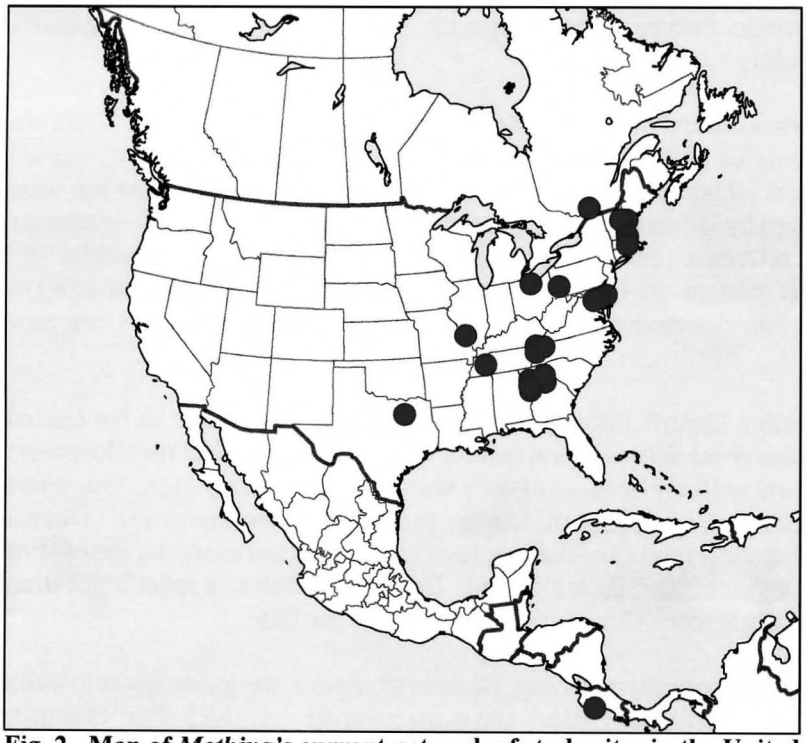


Fig. 2. Map of *Mothing's* current network of study sites in the United States, Canada, and Costa Rica. See www.discoverlife.org/moth/report.html for nightly updates of each site's effort and results. We hope to increase our coverage in North America and to expand to other countries, notably Ecuador and Mexico.

At our Blue Heron site in Clarke County, Georgia (33.8882° North, 83.2973° West), we have taken over 180,000 photographs to record the diversity of creatures that come to lights, including vertebrates and invertebrates alike. We have documented between-year differences in the abundance, size, and seasonality of 1,223 moth and 14 butterfly species that have come to lights over the past six years **(Fig. 3)**. The site has yielded approximately 300 species that are new state records and approximately 50 species that we think may be undescribed and new to science.

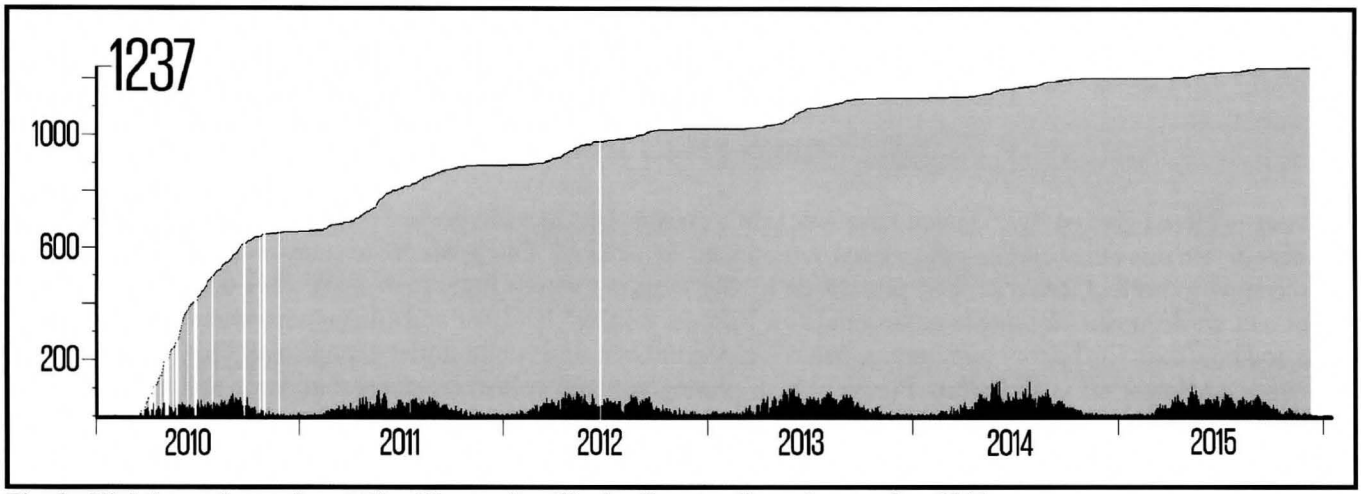


Fig. 3. Nightly moth species at Blue Heron site, Clarke County, Georgia, starting 2010.
Gray – The 1,237 accumulated species is based on 139,638 identifications, including 1,310 specimens identified to 58 morphospecies and 5,758 identified to 47 species groups. We have identified 97.2% of the site's moth images; 4,073 images are still unidentified.
White bands – Data not taken.
Black – Number of species photographed each night. See http://www.discoverlife.org/mp/20m?plot=3&la=33.9&lo=-83.3 for the site's most current data. This link is interactive and enables you to view the count of species for a selected date or between any two dates. [Note: The gap in data at the end of October, 2010, was because of a heart attack that I had at 6:00AM, after an exciting morning with my moths. This focused my life goals and I decided to moth nightly. I recommend that you do the same but skip the heart attack.]

Research protocol and workflow – *Mothing* has developed and tested a research protocol and identification tools, to manage, identify, and analyze data rapidly and accurately from images and datasets uploaded to Discover Life. So as to ensure the accuracy of where and when we record observations, participants take photographs of the time and date on cell phones. Similarly, for geographical information, they photograph porch lights, street signs, and latitude and longitude coordinates on smartphones and GPS devices. After participants upload images to albums, they tag them with geographical and other data. They and others then start the identification process, first grouping photographs into "buckets," such as "moth Geometridae gray," "moth Geometridae Macaria," "moth micro," and "moth Pterophoridae plume." As we identify moths further, either to species, species group, or morphospecies, automated programs tabulate and graph them nightly.

Specimen identification – Identifying specimens accurately from photographs is our greatest challenge. There are over 12,000 species of Lepidoptera in North America and possibly over 20,000 in Costa Rica. When we started *Mothing*, it took us 18 months to identify our first 10,000 photographs to species. We didn't know what we were doing, hadn't built identification guides customized by location, and only had the ability to label up to 100 specimens from one album at a time. After we assembled reference photographs, built site specific identification guides and annotated checklists, and wrote software to better manage the flow of images through "buckets" and examine up to 6,000 images at a time, it took us only 6 weeks to determine our second 10,000 images. Our experts can now determine over 500 specimens in a few hours.

Identification guides – Discover Life has an online identification guide to 12,000 moths that occur in the United States and Canada. By continually refining species checklists to states, counties, and other locations, we allow users to customize this guide and filter out species that are unlikely because of their known geographical range. Our guide also allows users to select species by size, month, color, wing pattern, family, genus, and other characters. Once it narrows possible taxa to below 100 kinds, users can view images of the species with the selected character states. For access to guides by state see www.discoverlife.org/moth/identification.html. Building a filter to a specific location is simple, it requires a list of the species in text format, one 'Genus species' binomial per line.

Annotated checklists – In partnership with Moth Photographers' Group, Discover Life uses the guide filters to build annotated checklists for sites. Such checklists are under 'Study sites', www.discoverlife.org/nh/cl. For example, see the one for Clarke County, Georgia: www.discoverlife.org/mp/20p?see=nh/cl/US/GA/Clarke/moth.cl&res=120 which rapidly presents over 1,200 thumbnails grouped by its index. When called at res=240 instead of 120, this shows up to six, larger images per species, but takes longer to download. These checklists, along with local guides, greatly speed our identification process.

Data management and availability – All *Mothing's* images, associated data, and analyses are available online. Automated programs tabulate results each night and make the images and associated data available immediately. Each night Discover Life mirrors information across its network of servers. It currently maintains 7 copies in the United States and Australia. We will share data with other sites, such as BISON, run by the United State Geological Survey.

Tools available through *Moth Math* enable users to build customized graphs and download records with associated moon phase, temperature, precipitation, and barometric pressure for further analysis. **Fig. 4** shows an example of a seasonality graph that *Moth Math's* tools generated.

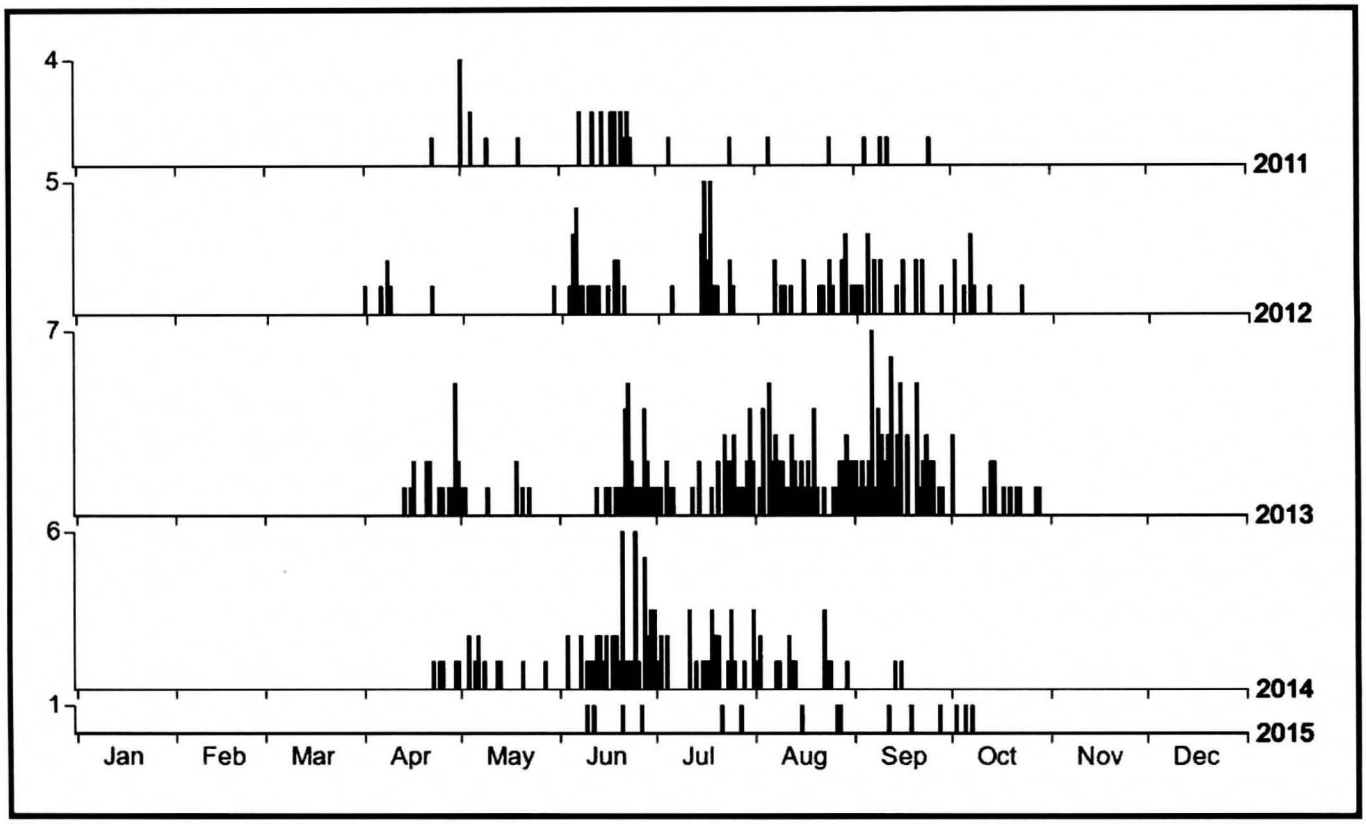


Fig. 4. Seasonality of *Pselnophorus belfragei*, Belfrage's Plume Moth, based on nightly photography from 2011 through 2015 (except 22 June, 2012, oops!) at our Blue Heron site, Clarke County, Georgia. Debbie Matthews, at the McGuire Center for Lepidoptera and Biodiversity, University of Florida, identified most specimens. This species does not exhibit strong synchronous flights of each generation but flies almost continuously throughout its March through October season. It flew earlier in 2012, presumably in response to the exceptionally warm winter that year. For unknown reasons, its numbers declined in 2015. For more information on this species, see its taxon page on Discover Life: www.discoverlife.org/mp/20q?search=Pselnophorus+belfragei.

Results and future directions – *Mothing* has a huge trove of data online which we have begun to analyze. We have published one paper on a regional outbreak and subsequent collapse of the Black-dotted Brown, *Cissusa spadix*, a noctuid (Coyle et al., 2013. *American Entomologist* 59: 78-90). We have novel findings that show how the body size of a species can change between generations and years, how smaller moths are relatively less active than larger moths at colder temperature, and how moths with larvae that feed on lichens may be more detrimentally affected by urbanization than other species.

We are modelling how the moon, latitude, and weather variables affect the flight of species across sites and over time. We need longer time series and data from more sites to better understand how these factors, especially rainfall patterns, affect moths.

We are investigating how coloration affects flight patterns in aposematic and cryptic species, showing that the former have more synchronized flights with sharper peaks. This newly discovered phenomenon may affect the genetic structure of populations along a latitudinal gradient, leading to possible '*temporal vicariance*' between northern and southern populations of aposematic species that have more than one flight per year. Brian Wiegmann at North Carolina State University has started molecular work to compare the genetic structure of populations from northern versus southern sites.

In 2016, with the help of Alex Cherkinsky, a physicist at University of Georgia, we will start examining whether moths have a '*pupa bank*' similar to the '*seed bank*' of plants. We plan to measure radioactive carbon isotopes in museum specimens to determine when their larvae fed. If we find that moth species can remain in a *pupa bank* for years, it will have profound implications for our understanding of how their populations may respond to potential droughts and other threats from climate change.

How can you help?

Record moths at new sites – We hope that many of you will join *Mothing* and use its protocol to record species at your lights. If you wish to do so, please consider the following levels of commitment: 1) new mooner – you photograph moths for two mornings as close to each new moon as you can; 2) weekenders – you photograph for two mornings each weekend that you can; 3) all nighters – you photograph most mornings, ideally finding other naturalists to cover for you when you go on vacation or are too sick to enjoy your moths' company. Discover Life will set you up with an album to manage your photographs and provide training and technical support. Our albums are not restricted to photographs of insects. You can use them to build a digital life list and map all species that you photograph. Our most accomplished photographer, Malcolm Storey, who lives in England, now has over 4,750 species in his album, approximately a tenth of the British flora and fauna. We want to compare rural and urban sites, so even if you live in a city with few moths, please join us.

Integrate data from collections – We plan to photograph 30 - 50 focal species in as many collections as possible, thus capturing historical data. So far we have taken approximately 30,000 photographs of specimens and labels from 13 museums (see www.discoverlife.org/pa/ph/#e). We use optical character recognition, natural language processing, and crowdsourcing to capture information from such images. We seek your help taking photographs in collections and in crowdsourcing the labels, checking identifications, and measuring specimen wing lengths.

If you have existing images or datasets in tables, we wish to work with you to incorporate them into our collective information. It is Discover Life's policy that photographers retain copyright of their images.

Identification – We seek your help editing county checklists that we use to build local guides and checklists. For quality control, we want these lists to be based on photographs taken at lights or of specimens and their labels from collections. We find that local guides and checklists help us to identify species rapidly.

We are particularly in need of experts who will help us check all our identifications. We call such participation "blessing." If you know a taxon well, we find that it takes approximately 20 minutes to weed out misidentified specimens from up to 6,000 images. We also need help figuring out some of our species groups, ideally determining to species what we currently have in groups, such as *Crambidia pallida–uniformis*, *Melanolophia canadaria–signataria*, and *Hypagyrtis esther–unipunctata*.

Involving schools and the public – If you are a teacher or would like to help develop *Moth Math* to involve others in the scientific process, please join us. In addition to teaching quantitative skills, we hope that *Moth Math* participants will take photographs using smartphones of our '*dark dozen*' – a set of 12 easily-identified taxa, such as the Luna Moth, *Actias luna*; Rosy Maple Moth, *Dryocampa rubicunda*, and Painted Lichen Moth, *Hypoprepia fucosa* – and then upload them via Twitter and Instagram to our handle *@mothmath*. We hope that these extensive data will help us document the impact of urbanization on moth communities.

Please email Becka <dl@discoverlife.org> and/or me <pick@discoverlife.org> if you want to start a site or help in any other way. www.discoverlife.org/pa/ph explains how to get an album. I plan to give more details of *Mothing* and present more results in future issues of *SL News*.

Acknowledgments – By its very nature of being a project of sharing, I cannot possibly list everyone whom I would like to thank for contributing to *Mothing*. There are so many of you – those who share and identify photographs, the support team at Discover Life, those of you who brainstorm ideas, inspire, volunteer time, and provide financial and logistic support. Thank you one and all. In particular, I thank Bob Patterson and the many contributors to MPG for making our moth identification possible, the museum community and collectors for historical information, the UGA Costa Rica program for support at their site, and the USGS for its support of Discover Life. My special thanks to Peter Burn, Sam Droege, Stella Guerrero, Jonathan Lochamy, Justin Long, Nancy Lowe, Tori Staples, Becka Walcott, Kevin Weick, and Brian Wiegmann.

[John Pickering, Odum School of Ecology, University of Georgia, Athens, GA 30602
Cell phone: (706) 254-7446; E-Mail: pick@discoverlife.org]

REPORTS OF STATE COORDINATORS

Alabama: C. Howard Grisham, 573 Ohatchee Road, Huntsville, AL 35811, E-Mail: chgrisham@Comcast.net

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

Charlie sends in the following report for Florida:

Barbara Woodmansee reported an *Asbolis capucinus* on Oct. 30 near Kanapaha Botanical Garden in Gainesville. She reported the following from Lower Suwannee Nat'l Wildlife Refuge. Levy Co., Oct. 25:

Gemmed satyrs-3
Appalachian Brown-2
Little Glassywing-1
Northern Broken Dash-1
Carolina Satyrs - too many to count
Monarch-4
Clouded Skipper-many
Cloudless sulphur-5
Queen-many
Sleepy Orange-2
Dorantes longtail-many, watched several laying eggs
Longtail Skipper-2
Tiger Swallowtail -1
Phaon crescent-3
Pearl crescent-1
Palamedes-1
Broadwing skipper-3
Ocola Skipper-2
Zebra Heliconian-4
Gulf Fritillary -5
Red-banded Hairstreak-1
Viceroy-3
Common buckeye-2

Also, on Nov. 7, at Devil's Hammock on Andrews Road, west and north of Bronson in Levy Co., she and friends recorded:

Southern Dogface
Little Metalmark
Phaon Crescent
Pearl Crescent
Cloudless Sulphur
Zebra Heliconian (at least 18 individuals were seen - maybe more)
Whirlabout
Dorantes skipper
Ocola skipper (zillions!)
Least skipper (millions!)
Gulf Fritillary
Viceroy
Common Buckeye
Red-banded hairstreak
Great purple hairstreak
Eufala skipper
Longtail skipper
Sleepy orange
Monarch
Carolina satyr
Little yellow
Southern Skipperling
White Peacock
Common Checkered Skipper
Sachem Skipper
Fiery Skipper

The SLS fall moth survey trip to Payne's Prairie Preserve State Park, Alachua Co., Oct. 16, included the following participants: Eric Anderson, Jade Badon, Charlie Covell, Lary Reeves, Don Tangren, Rona and Madison Young, Jose and Raiza Fernandez, Joe Cicero, Deneith Reif, Steve Mix, and Denise Tan. Here is the list, with "MONA" Checklist numbers. The 7 species in boldface are new to the survey's records.

TORTRICIDAE:
2749 *Eumarozia malachitana* (Zell.)
3732 *Platynota flavedana* Clem.

LIMACODIDAE:
4681 *Isa textula* (H.-S.)

CRAMBIDAE:

4738 Eudonia strigalis
4748 *Elophila icciusalis* (Wlk.)
4751 *Elophila gyralis* (Hlst.
4755 *Elophila obliteralis* (Wlk.)
5151 *Samea multiplicalis* (Gn.)
5273 *Herpetogramma fluctuosalis*
5274 *Herpetogramma phaeopteralis* (Gn.)
5284 *Syngamia florella* (Stoll)
5393 *Raphiptera argillaceella* (Pack.)
5465 *Vaxi auratella* (Clem.)

PYRALIDAE:

5638 *Cacotherapia unicoloralis* (B. & McD.)
5853 *Dioryctria amatella* (Hlst.)
5863.1 *Dioryctria clarioralis* (Wlk.)
5863.5 *Dioryctria taedivorella* Neunzig & Leidy
5970 *Melitara prodenialis* Wlk.
6031 *Eurythmia hospitella* (Zell.)
6067 *Atascosa glareosella* (Zell.)

GEOMETRIDAE:

6339 *Macaria transitaria* (Wlk.)
6341 *Macaria bicolorata* (F.)
6443 *Glenoides texanaria* (Hlst.)
6941 *Eusarca confusaria* Hbn.
7059 *Synchlora frondaria* Gn.
7114 *Idaea demissaria* (Hbn.)
7122 *Idaea tacturata* (Wlk.)
7132 *Pleuroprucha insulsaria* (Gn.)
7181 *Lophosis labeculata* (Hulst)

SATURNIIDAE:

7704 *Eacles imperialis* (Drury)
7715 *Dryocampa rubicunda* (F.)
7746 Automeris io (F.)
7757 Antheraea polyphemus (Cram.)
7758 *Actias luna* (L.)

EREBIDAE:

8045 *Crambidia pallida* Pack.
8067 *Cisthene plumbea* Stretch
8071 *Cisthene subjecta* (Wlk.)
8098 *Clemensia albata* Pack.
8122 *Virbia rubicundaria* (Hbn.)
8217 *Leucanopsis longa* (Grt.)
8326 *Idia rotundalis* (Wlk.)
8368 *Tetanolita floridana* (Smith)
8370 *Bleptina caradrinalis* Gn.
8488 *Hormoschista latipalpis* (Wlk.)
8398 *Palthis asopialis* (Gn.)
8509 *Arugisa lutea* (Smith)
8579 *Antiblemma concinnula* (Wlk.)
8687 *Zale fictilis* (Gn.)
8743 *Mocis latipes* (Gn.)
8885 *Argyrogramma verruca* (F.)

NOLIDAE:
8983.2 *Meganola spodia* Franc.

NOCTUIDAE:
9070 *Amyna axis* Gn. [formerly *octo* (Gn.)]
9080 *Proroblemma testa* B. & McD.
9636 *Acherdoa ferraria* Wlk.
9673 *Spodoptera albula* (Wlk.)
9675 *Elaphria fuscimacula* (Grt.)
9676 *Elaphria nucicolora* (Gn.)
9677 *Elaphria agrotina* (Gn.)
9678 *Elaphria versicolor* (Grt.)
9690 *Condica videns* (Gn.)
9819 *Amolita obliqua* J. B. Smith
10450 *Leucania incognita* B. & McD.
10455 *Leucania scirpicola* Gn.
10911 *Anicla infecta* (Ochs.)
11149 *Schinia trifascia* Hbn.

Charlie recorded the following in Gainesville, Alachua Co., since the last newsletter's listing. The 3 commonest species in the Gainesville area are *Phoebis sennae*, *Agraulis vanillae* and *Heliconius charithonia*. Records for these will be omitted this time as they were seen almost daily.

Danaus gilippus, Aug. 3,4; *Erynnis horatius*, Aug. 11; *Hylephila phyleus*, Aug. 11, 22, 29, Sept. 17, Oct. 9; *Heraclides cresphontes*, Aug. 20, 22, Oct. 15; *Phoebis philea*, Aug. 11, 22, Sept. 2, Oct. 22, 25, 28, 30; *Abaeis nicippe*, Aug. 11, 22, Oct. 24, 25, 28, 31; *Limenitis archippus*, Aug. 11, Oct. 25; *Danaus plexippus*, Aug. 16, 17, 20, Sept. 11, 16, 17, Oct. 8, 22, 24, 31; *Urbanus proteus*, Aug. 17, 20, Sept. 3, 5, 11, 16, 17, Oct. 9, 10; *Urbanus dorantes*, Aug. 17, 20, Sept. 2, Oct. 1, 8, 13, 20; *Panoquina ocola*, Aug. 17, Sept. 3, 16, Oct. 9, 30; *Papilio palamedes*, Aug. 17; *Papilio glaucus*, Aug. 18, Oct. 15; *Papilio troilus*, Aug. 18, 20, Sept. 5, Oct. 8; *Euphyes vestris*, Aug. 20, *Battus polydamas*, Sept. 5, 13, 30, Oct. 28; *Anartia jatrophae*, Sept. 18; *Eurema daira*, Oct. 1, 9; *Phyciodes phaon*, Oct. 1, 24; *Junonia coenia*, Oct. 8, 14, 22, 24, 25, 30; *Pyrisitia lisa*, Oct. 14, 22, 27; *Leptotes cassius*, Oct. 15, 30; *Pyrgus* sp., Oct. 15; *Ancyloxipha numitor*, Oct. 22, 24; *Phoebis agarithe*, Oct. 25; *Phyciodes tharos*, Oct. 28; *Euptoieta claudia*, Oct. 30.

Moths:

Enyo lugubris (Sphingidae), Aug. 19
Actias luna (Saturniidae), Oct. 14

Please send your records to me for inclusion. We have very little participation from those of you who observe and collect in southern Florida. Thanks. Cheers, Charlie

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/).

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.*), or 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 2015 unless otherwise specified.

Rabun Bald, Rabun Co., Oct. 10-11, with Patrick Adams:
LASIOCAMPIDAE: *Tolype velleda*. **NOCTUIDAE**: *Papaipema marginidens, Fishia illocata* (numerous).

Morganton, Oct. 10-11:
NOCTUIDAE: *Argyrogramma verrucae, Amyna axis*.

Blue Ridge, Oct. 11:
SPHINGIDAE: *Agrius cingulatus.*

Carbondale, I-75 exit 326, Whitfield Co.:
CRAMBIDAE: *Syngamia florella*, Nov. 2. **GEOMETRIDAE**: *Sphacelodes vulneraria* (COUNTY, first for north GA), Nov. 2, Nov. 3 (2), Nov. 4, Nov. 9. **SPHINGIDAE**: *Agrius cingulatus*, Oct. 14; *Enyo lugubris*, Nov. 3. **EREBIDAE**: *Catocala maestosa*, Sept. 16 and 24; *C. insolabilis*, Sept. 15 (COUNTY); *C. robinsoni*, Nov. 2; *Amyna bullula*, Sept. 24 and 29, *Amyna axis*, Oct. 1. **NOCTUIDAE**: *Condica confederata*, Nov. 4; *Papaipema polymniae*, Sept. 24.

Rocky Face Ridgeline, Just SW of Dalton, Whitfield Co.:
Sept. 12:
GEOMETRIDAE: a nice flight of *Caripeta aretaria.* **EREBIDAE**: *Grammia virgo.* **NOCTUIDAE**: *Trichordestra legitima* (uncommon here).
Sept. 27:
EREBIDAE: *Grammia figurata* (LATE!), *Amyna axis.* **NOCTUIDAE**: *Heliocheilus lupatus, Papaipema marginidens, Mesapamea fractilinea, Feltia geniculata, Dichagyris grotei.*

Sapelo Island, McIntosh Co.:
April 13, 2013, LD:
EREBIDAE: *Sigela eoides.*
July 17-18, LD:
ACROLOPHIDAE: *Acrolophus heppneri.* **PSYCHIDAE**: *Oiketicus abbotii.* **CRAMBIDAE**: *Hellula kempae.* **GEOMETRIDAE**: *Lobocleta peralbata, Idaea eremiata, I. micropterata, Scopula compensata.* **NOCTUIDAE**: *Euplexia benesimilis, Properigea tapeta.*
Oct. 9, JH:
EREBIDAE: *Cosmosoma myrodora.* **NOLIDAE**: *Diphthera festiva.* **NOCTUIDAE**: *Properigea tapeta, Trichordestra legitima, Feltia floridensis, Dichagyris reliqua, Agrotis vetusta, Mesapamea fractilinea.*
The following species are New to the island, JH, LD, and BS:
CRAMBIDAE: *Epipagis fenestralis* (formerly *huronalis;* 9 Oct.), *Apogeshna stenalis* (9 Oct.). **PTEROPHORIDAE**: *Adaina bipunctatus* (Sept. 2013; STATE), *Hellinsia unicolor* (April 2013, May & June 2014, Sept. and Oct. 2015), *Stenoptilodes brevipennis* (Sept. 2015), *Dejongia californicus* (Sept. 2015), *Lioptilodes albistriolatus* (Oct. 2014). Our thanks to Debbie Matthews for the determinations. **NOCTUIDAE**: *Anomis flava* (9 Oct.), *Schinia petulans* (9 Oct.), *Schinia siren* (9 Oct.).

Chattahoochee Nature Center, Fulton County, 2 Oct., Henning von Schmeling and Giff Beaton:
SESSIIDAE: *Pennisetia marginatum* – Raspberry Crown Borer Moth (COUNTY; likely STATE, as I could find no confirmed records for it when I was doing my initial work on the Georgia Lepidoptera website; nice to finally confirm it for Georgia).

Priester Point, Julienton River, McIntosh Co., 25 Oct., Nancy Crosby:
EREBIDAE: *Dahana atripennis*

31° 25.658' N 81° 23.960' W, 3 mi. NNE of Darien, McIntosh Co., 29 Oct., Doris Cohrs:
NOCTUIDAE: *Ozarba nebula* (STATE).

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

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

Ricky reports the following records for Mississippi following a very dry summer:

17 September 2015, 6.2 miles west of McHenry, Stone county, *Schinia lynx, Schinia parmeliana, Schinia nundina, Heliothis virescens.*
13 October 2015, Natchez Trace at Chiwapa Creek, mile 253.3, Lee county, *Papaipema* new species #4, *Papaipema* new species #5.
13 October 2015, Natchez Trace at Dick's Creek, mile 232.1, Chickasaw county, *Papaipema nebris, Papaipema cerussata.*

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

Butterfly Records:

Steve states that the following selected records were submitted by Harry LeGrand. Records are from September through November 2015. Names in parentheses are counties.

Fall 2015 featured an abundance of cloudy weather and often heavy rains, cutting down on quality butterflying opportunities. Some areas had record daily or monthly rainfall totals. Another downer was the continued poor northbound flow of migrants from Florida, Georgia, and South Carolina. Nary a single rare stray was reported in the state for the entire season. On the positive side, the numbers of skippers in the Coastal Plain continued their slow recovery from three harsh spring seasons, and the migration of *Danaus plexippus*, though delayed by one to two weeks owing to rainy conditions, showed some recovery from the past several years.

PAPILIONIDAE:

Papilio cresphontes, the more notable of the several reports were three seen at the Duck Community Park (Dare) on September 8 by Linda Ward and Skip Morgan, and a female seen ovipositing by Doug Johnston in his yard in the mountains near Leicester (Buncombe) on September 20.

PIERIDAE:

Pontia protodice, the only fall sighting was made by Mike Turner, along the Neuse River Greenway southeast of Raleigh (Wake) on October 17.

Pyrisitia lisa, this migrant is rare in the northeastern portion of the state, and one seen by Floyd and Signa Williams on September 5 in near Creswell (Washington) **(COUNTY)** was an excellent find.

LYCAENIDAE:

Atlides halesus, very rare in the mountains, where known from just four counties in the province, was one seen by Jason Love in his yard near Otto (Macon) on September 13.

NYMPHALIDAE:

Agraulis vanillae, this was one of the few migrant species (along with *Panoquina ocola*) to stage a good flight into the state this season, and it was recorded over most of the state.

Speyeria diana, a respectable count of six females was made by Gail Lankford and party in Madison County on September 14.

Phyciodes phaon, Mike Turner had good counts near the northern edge of the range; he tallied 20 at Avon (Dare) on September 8, and 80 slightly farther south at Cape Hatteras Point on September 9.

Vanessa cardui, numbers picked up slightly over that from the summer season, though few observers had more than one or two in a single day.

Lethe portlandia, this species was previously known from the mountains only from two counties along the Georgia border. In one of those (Macon), Jason Love observed singles on October 7 and 9 along the Tessentee Bottomland Preserve near Franklin. A remarkable record came from Cherokee (Swain) **(COUNTY)**, where Stephanie Puckett photographed one on the very late date of November 18. This represents the third mountain county record and the farthest north in the region.

Lethe appalachia, a slight range extension to the east was made by Harry LeGrand, who observed a worn individual at Moores Creek National Battlefield (Pender) **(COUNTY)** on September 20. This species seems oddly "absent" in much of the eastern half of the state's Coastal Plain, despite an abundance of seemingly good habitat.

Danaus gilippus, the only fall report was from the usual colony site at Fort Fisher (New Hanover), where Tim Armstrong saw one on September 2.

HESPERIIDAE:

Hesperia leonardus, the only report for the season came from the mountains, where Gail Lankford and others saw two in Madison County on September 14.

Hesperia attalus slossanae, two females were photographed by Richard Stickney in the Sandhills Game Land (Scotland) on September 20.

Problema byssus, at the inner edge of the range was one seen by Mike Turner at Umstead State Park (Wake) on September 19.

Poanes yehl, locally scarce was one seen by Salman Abdulali at the Pitt County Arboretum near Greenville on September 13.

Poanes viator, Richard Stickney saw three at a known site along the western edge of the range in southeastern Chatham Co. County on September 28.

Euphyes dukesi, Richard Stickney had a good tally of 12 individuals at a known site in Croatan National Forest (Craven) on September 8.

Euphyes berryi, Richard Stickney had the only fall sightings, from known sites in Croatan National Forest (Craven) on September 8 and from south of Lake Phelps (Washington) on September 7 and 21.

Moth Records:

The following selected records were submitted by Billy Hartness (BH), Backstrom (PB), Bo Sullivan (BS), Ed Corey (EC), Steve Hall (SH), Paul Scharf (PS), Parker Brian Bockhahn (BB), and Kyle Kittelberger (KK).

ZYGAENIDAE:

Neoprocris floridana, Oct. 12, Moore Co., BH (**STATE**). Larvae were found on Carolina Cherries growing around a residence in Southern Pines. Carolina Cherry (*Prunus caroliniana*) is native to North Carolina but is found mainly in maritime habitats. It is used for landscaping more widely, however, and the original source of both the plants and the larvae still needs to be determined.

THYATIRIDAE:

Pseudothyatira cymatophoroides, Sept. 3, 4, Chatham Co., PB

GEOMETRIDAE:

Xanthorhoe packardata, Sept. 17, Alleghany Co., BS

LASIOCAMPIDAE:

Tolype minta, Oct. 14, Bladen Co., EC

Heteropacha rileyana, Sept. 4, Lee Co., PB

SATURNIIDAE:

Sphingicampa bicolor, Sept. 4, Chatham Co., PB; Sep 1, Lee Co., PB

Sphingicampa bisecta, Sept. 1, Lee Co., PB

SPHINGIDAE:

Sphinx kalmiae, Sept. 8, Chatham Co., PB

NOTODONTIDAE:

Peridea "ferruginea", Sept. 1, Lee Co., PB

EREBIDAE:

Anomis erosa, Sept. 8, Chatham Co., PB

Anomis privata, Sept. 8, 11, Chatham Co., PB

Catocala piatrix, Sept. 11, Chatham Co., PB

Catocala habilis, Sept. 16, Ashe Co., SH/BS

Catocala robinsonii, Sept. 21, Chatham Co., PB; Oct. 7, Warren Co., PS; Oct. 14, Orange Co., SH

Catocala angusi, Sept. 11, Chatham Co., PB

Catocala residua, Sept. 15, Chatham Co., PB

Catocala vidua, Sept. 23, Lee Co., PB; Oct. 29, Orange Co., SH; Nov. 11, Warren Co., PS

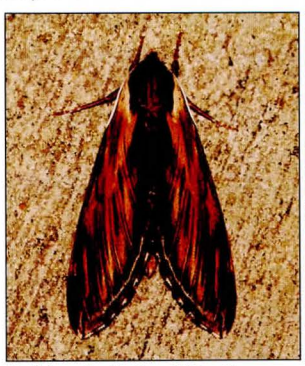
Catocala lacrymosa, Sept. 21, Chatham Co., PB

Catocala nebulosa, Sept. 16, Ashe Co., SH/BS; Sept. 28, Chatham Co., PB

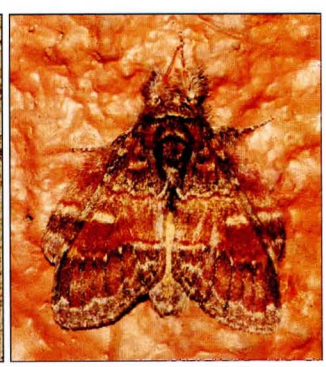
Catocala neogama, Sept. 8, Chatham Co., PB

NOCTUIDAE:

Amyna axis, Sept. 24, Lee Co., PB

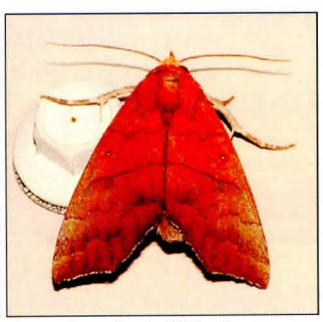


Sphinx kalmiae **[Chatham Co., Sept. 8, 2015 (PB)]**



Peridea "ferruginea" **[Lee Co., Sept. 1, 2015 (PB)]**

Anomis erosa **[Chatham Co. Sept. 8, 2015 (PB)]**

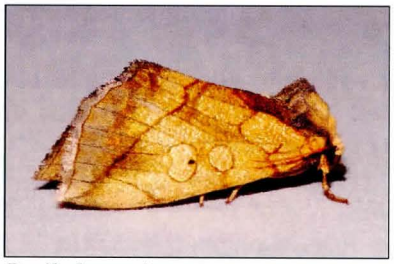


Anomis privata **[Chatham Co., Sept. 8 & 11, 2015 (PB)**

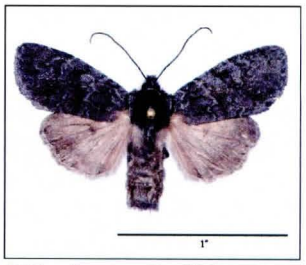
Meropleon diversicolor, Sept. 22, Chatham Co., PB
Papaipema inquaesita, Sept. 21, Chatham Co., PB
Papaipema baptisiae, Sept. 22, Chatham Co., PB
Papaipema furcata, Sept. 16, Ashe Co., SH/BS, Sept. 17, Alleghany Co., BS; Sept. 28, Oct. 13, 14, Chatham Co., PB; Oct. 1, Lee Co., PB. While we have records from only a few locations, this species may occur widely across North Carolina. That is likely to change, however, since the Emerald Ash Borer (an exotic Buprestid) has recently become established in North Carolina.
Papaipema nebris, Sept. 16, Ashe Co., SH/BS
Spodoptera latifascia, Sept. 17, Alleghany, Co., BS
Basilodes pepita, Sept. 3, Chatham Co., PB; Sept. 5, Warren Co., PS
Lithophane patefacta, Nov. 4, 12, 24, Orange Co., SH; Nov. 17, Warren Co., PS
Lithophane bethunei, Nov. 24, Orange Co., SH
Lithophane grotei, Nov. 24, Orange Co., SH
Lithophane adipel, Nov. 24, Orange Co., SH. May be the first record from the eastern Piedmont of NC (previously recorded in NC in the Fall-line Sandhills)
Pyreferra pettiti, Oct. 13, Orange Co., SH. Found at a concentration of Hop Hornbeam where this species has been observed off-and-on over the past 20 years
Eucoptocnemis dapsilis, Oct. 12, Bladen Co., EC
Euxoa velleripennis, Sept. 17, Alleghany Co., BS
Agnorisma bollii, Oct. 10, Halifax Co., PS/BB/KK; Oct. 13, Chatham Co., PB; Oct. 13, Orange Co., SH. This species was once known in NC only from the Mountain but now appears to be present as far east as the Fall-line (SH also collected two specimens at Fort Bragg, at the upper edge of the Coastal Plain, in Oct. 2002).

Amyna axis **[Lee Co., Sept. 24, 2015 (PB)**

Papaipema nebris **[Wagon Road Community, Sullivan Cabin, Sept. 16, 2015 (SH)]**

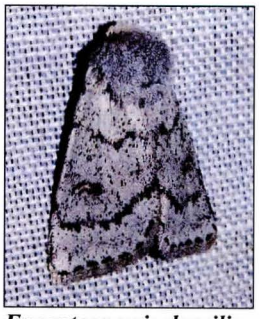


Basilodes pepita **[Chatham Co., Sept. 3, 2015 (PB)]**



Lithophane adipel **[Orange Co., Nov. 24, 2015 (SH)]**

Pyreferra pettiti **[Chapel Hill, Oct. 13, 2015 (SH)]**



Eucoptocnemis dapsilis **[Bladen Co., Oct. 12, 2015 (EC)]**

Agnorisma bollii **[Halifax Co., Oct. 10, 2015 (PS, BB, KK)**

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 reports that Kyhl Austin recorded the following moth records from his home in Hamilton Co. in Southeast TN. The first 7 moths all appear to be new state records; all were recorded the summer of 2015. The next 4 moths are potential state records (as far as Moth Photographers Group is concerned).

Eoparagyractis irroratalis
Phyllonorycter celtisella
Pammene felicitana
Samea baccatalis
Leucanopsis longa
Grapholita prunivora
Stigmella slingerlandella (det. E. van Nieukerken)

Cosmopterix teligera
Melanocinclis lineigera
Taygete gallaegenitella
Pseudotelphusa palliderosacella

Kyhl, a student at Davidson College in North Carolina, sent a list of 546 species he photographed this summer. John says that he will be looking through it for additional noteworthy observations.

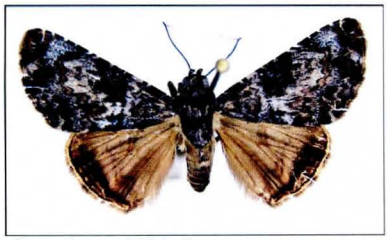
John also states in an additional note that he has observed the strongest flight of *A. vanillae* that he has ever seen in Kingsport, Sullivan Co., TN. The butterflies appeared in August and are still around; often 4-5 have been seen at a time in our garden on Zinnia.

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

This report mostly covers conditions in the Lower Rio Grande Valley in November 2015. Charles Bordelon spent about 1 month in Alamo, and Ed Knudson joined him Thanksgiving week (Nov. 21-29).

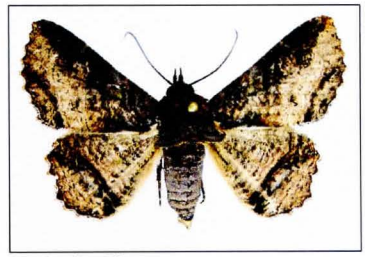
Generally conditions were poor with butterflies and moths below normal numbers and diversity. Earlier, there had been quite of few of the resident hairstreaks, of which *Strymon alea* was still present in small numbers. Nothing else of great interest.

There were some interesting moths one of which from Nov. 23, 24 was a new USA record. This is an erebid, identified by Lafontaine from a photo, *Thursania lycimnia* Druce, which was described from Mexico. Other erebids we found included *Zale fictilis, Helia agna, Simplicia cornicalis, Anomis editrix, Anomis gentilis, Anomis flava, Litoprosopus futilis, Coenipeta bibitrix, Ptichodes immunis*, and *Agaraea semivitrea*. A few interesting noctuids included: *Spodoptera pulchella, Acroria terens* (common). An interesting crambid was *Cryptobotys zoilusalis*, a new state record, and *Pyrausta aurea*.



Coenipeta bibitrix
(Charles Bordelon, Nov. 24, 2015, Alamo, TX.)

Thursania lycimnia
(Ed Knudson, male, Nov. 23, 2015. A female was also collected by Ed on Nov. 24, 2015, both at light. Alamo TX, New US record)



Zale fictilis
(Charles Bordelon, Nov. 24, 2015, Alamo, TX.)

In Mission, TX., in his backyard, Mike Rickard collected 2 species of *Gonodonta. G. nitidimacula* on July 12, 2015, and *G. pyrgo* on Oct. 16, 2015.

Another Erebid, *Bulia mexicana*, was collected in Starr Co., TX, near Rio Grande City, on Dec. 12, 2007. The identity was conformed with DNA (Lafontaine pers. comm.). This is at least a new TX record.

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

Harry sends in the following winter report for Virginia:

Butterflies:

Pieris rapae – Loudoun County (Leesburg): 12/12/2015 (Harry Pavulaan - one observed flying along a roadside in downtown).

Colias eurytheme – Fairfax County (Vienna, W & OD Regional Bike Trail at Clarks Crossing): 12/16/2012 (Harry Pavulaan – 1 observed). Loudoun County (Leesburg): 12/11/15 (Harry Pavulaan - one cold weather "*ariadne*" form vouchered and 2 more observed near Leesburg Airport; 12/12/15 (Sandra Pavulaan - 2 observed at Ida Lee Park); 12/13/2015 (Harry Pavulaan - 2 cold weather "*ariadne*" form vouchered and 2 more observed near Leesburg Airport).

Euptoieta claudia – Loudoun County (Leesburg): 12/12/2015 (Harry Pavulaan - one dwarfed cold weather form vouchered at Morven Park) - very unusual in this area in December. Richmond City (Maymont Park): 12/12/2015 (Bill Hark - 3 observed).

Polygonia comma – Loudoun County (Leesburg): 12/12/2015 (Harry Pavulaan - one observed in woodlands in Veterans Memorial Park).

Vanessa atalanta – Loudoun County (Leesburg): 12/15/15 (Harry Pavulaan - one observed at Veterans Memorial Park).

Junonia coenia – Loudoun County (Leesburg): 12/11/15 (Harry Pavulaan - one cold weather form with dark venter observed near Leesburg Airport) - very unusual in this area in December. Richmond City (Maymont Park): 12/12/2015 (Bill Hark - 2 observed).

Pyrgus communis – Fairfax County (Vienna, W & OD Regional Bike Trail at Clarks Crossing): 12/16/2012 (Harry Pavulaan – 1 observed). Fairquier County (Sky Meadows State Park): 12/13/2015 (Bryan Henson – several observed). Loudoun County (Leesburg): 12/13/15 (Harry Pavulaan - one female vouchered near Leesburg Airport). Very unusual in this area in December.

Moths:

Hemileuca maia – Chesterfield County (Pocahontas State Park), 11/11/15 (Paul Bedell – at least 12 observed, mating pair photographed). Fairfax County (Lorton), 11/3/15 (Harry Pavulaan – 2 vouchered).

Atteva aurea – Chesterfield County (Midlothian), 12/13/15 (Paul Bedell - observed at porch light).

Phigalia denticulata – Chesterfield County (Midlothian), 12/13/15 (Paul Bedell - observed at porch light).

Iridopsis vellivolata – Chesterfield County (Midlothian), 12/13/15 (Paul Bedell - observed at porch light).

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