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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

NO HOLDS "BARRED"

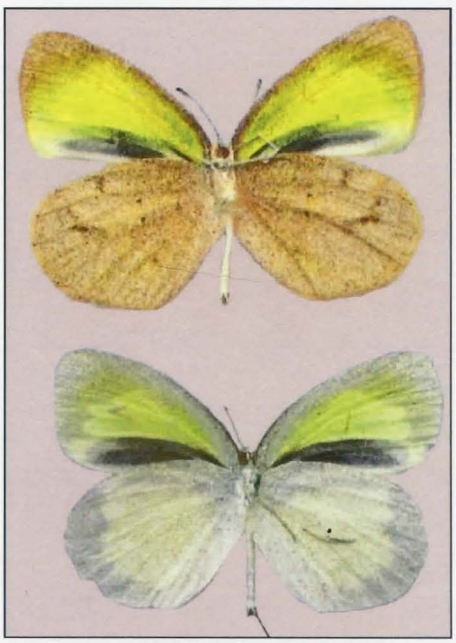
BY

CRAIG W. MARKS

Although originally used in the context of wrestling, the phrase, "no holds barred," has come to mean anything and everything is possible. That is how I feel about the Barred Yellow here in Louisiana.

Eurema diara, the Barred Yellow, is a small sulphur that can be difficult to distinguish from the much more wide-spread and common Little Yellow (*E. lisa*) while in flight. The primary distinguishing feature is a black bar along the bottom of the forewing, for which *daira* is named. It can also be hard to differentiate from the Little Yellow when at rest since both land with their wings held over their backs, making it difficult to see the black bar. This is further complicated by the fact that this species is also dimorphic, with the females often completely lacking or only showing a slight trace of the black bar along the bottom of the upper dorsal wings. The males always present with those black bars.

This sulpher has seasonal differences, a white, summer form and a red (or "rosa"), winter form. The winter (or dry season) form has less black and is ventrally brown or red. The theory is this "rosa" coloration provides both a camouflage and heat absorption function. The summer (or wet season) form is gray/white ventrally. Initially the summer form was thought to be possibly different



Barred Yellow (*Eurema diara*), 9/07/2013, Tangipahoa Parish

species (*jucunda*), but is now recognized simply as a form, *E. d. diara* f. *jucunda*. As Howe noted, these seasonal forms, along with the intermediates that can occur, can be confusing.

Bryant Mathers conducted a study during the 1950's of the various forms he found from February to November in Mississippi. He found the summer form present from early April into mid-October, and the winter form from mid-September to the third week of March. He also found the presence of an intermediate form (*delioides*) from late September to late October. He found the two principle forms, along with the intermediate, flying together at several locations from mid-September to mid-October. He suspected further collecting would confirm the presence of a winter-summer overlap in March and April.

The vast majority of Louisiana records are from the Florida Parishes, where it can be common in open pine woods. Those Florida Parishes records include multiple sightings from February to November. I suspect those records are an extension of those populations along the Alabama and Mississippi Gulf Coast that have moved west and survived under mild winter weather conditions. I have most often found it at Sandy Hollow WMA in Tangipahoa Parish, in March, August, and September. It was extremely abundant in August and September (with well over fifty seen in less than one hour's time).

There were some records from west of the Mississippi River (one very old, two more recent); however, as I was gathering data for my book, I questioned all of those records. I ultimately discounted all of those "western" records, with detailed explanations given in my book. From my research, I expected that any sightings within the state would have been from east of the Mississippi River, and not in Acadiana, the Cajun Prairie or Central Louisiana.

Subsequent to publication of my book, more people around the State became interested in searching for new parish records. The vast majority of those new parish records were to be expected although there were a few of interest. As noted above, there had not been any reports of this species west of the Mississippi River that I felt were reliable until Lawanda Smith Mobley submitted to BAMONA a ventral photograph that was accepted as a Barred Yellow. The location was the Catahoula Butterfly Garden in Kisatchie National Forest (Grant Parish) so the habitat is similar to that in which the Barred Yellow is found in the Florida Parishes (dry, piney woods).

Jonathan Clark confirmed the presence of this species in Grant Parish on 7/27 & 8/09/19 in the Catahoula National Wildlife Preserve, photographing several specimens. He also photographed a winter form specimen in that Preserve on 11/05/19. Additionally, he photographed specimens in Winn Parish (Catahoula National Wildlife Preserve) on 8/09/19, and in LaSalle Parish (near White Sulphur Springs), on 8/13/19. The former was of the winter form while the latter was of the summer form. The latter two sightings were new parish records.

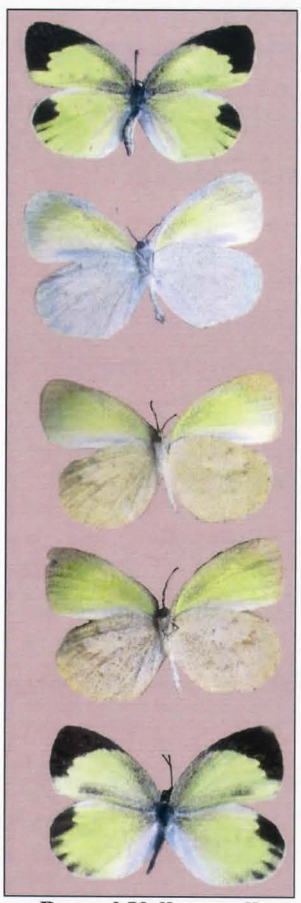
Photo by J. Clark, 8/09/19, at Catahoula National Wildlife Preserve

Photo by J. Clark, 8/13/19) at White Sulphur Springs

On 3/01/20, Clark located another specimen at the Catahoula Butterfly Garden in Grant Parish, the earliest record for this newly discovered population west of the Mississippi River. Due to windy conditions, he was unable to get a picture, but reported it appeared to be the winter, "rosa" form. The next week, on 3/08/20, Jeff Trahan and I saw a male in Kisatchie NF at Evangeline Primitive Camp area. One week later, on 3/14/20, we (Jeff and I) found another male even further west in Kisatchie NF at Cooter's Bog in Vernon Parish. Both males were of the "rosa", winter form (see the pictures on the next page, top - left column), and both were flying in an area of open pinewoods. Both sightings were new parish records.

Barred Yellow, Vernon Parish (top) & Rapides Parish (bottom)

On April 26, 2020, Linda Auld and I were in Sandy Hollow WMA looking for Mottled Duskywings (another story for another time). During the day we saw 18 species, including 28 Barred Yellows (the most I have seen on one day in the spring). Both sexes were flying. The females were noticeable larger than the males. The males that I inspected closely were all the white, summer form. Among the females, both summer and winter forms were present. Most of the females lacked the dark bar along the bottom of the upper dorsal wing or it was very faint (see the pictures below).

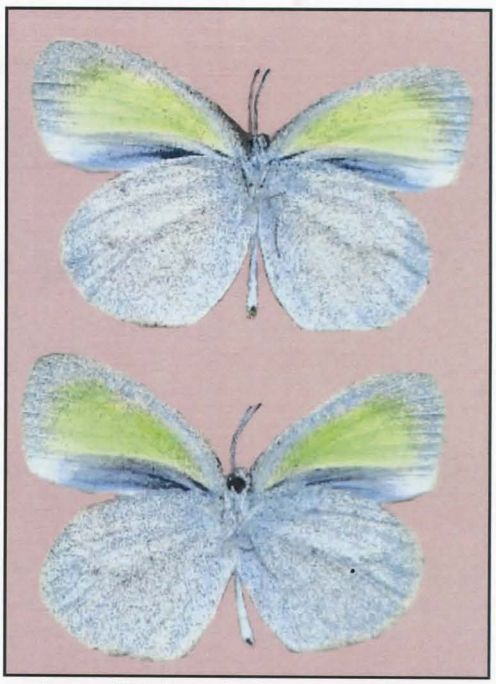


Barred Yellows, all females, Tangipahoa Parish

In FL, it is reported to use herbs in the bean family like vetch, pencil flower, and hairy indigo. Pencil flower (*Stylosanthes biflora*) is a native herbaceous perennial that, per Dr. Charles Allen, is a common species of the pine forests and prairies of Louisiana. According to Linda, there was an abundance of pencil flower at the Sandy Hollow location (see below).

Photo by L. Auld, 4/26/20, at Sandy Hollow WMA

On 5/07/20, Jean and Jeff Trahan and I traveled to Grant Parish to investigate a possible new colony of Northern Pearly-eyes in Kisatchie NF. While we found no Pearly-eyes, four Barred Yellows were seen at three locations, each several miles from the others. As is reflected by the pictures below, while closely approaching the white, summer form, all three were more of a faint yellow color rather the pure white that classically represents the summer form (see photos below).



Barred Yellow, both males, 5/07/20, Grant Parish

So, this little sulphur has, in fact, crossed the Mississippi River and established itself in five Central Louisiana parishes. Clearly, there is a breeding population in Grant Parish, and that colony appears to be branching out into neighboring parishes with similar open, piney woods habitat. It appears there is a transition from the winter, "rosa" form to the white, summer form that occurs between March and May here in Louisiana.

The winter form apparently begins to fly again as early as August, and I don't know that I completely understand that dynamic. August is possibly the hottest month in Louisiana, with the high heat extending into early September. In addition to the heat; however, August is a "wet" month with high humidity and frequent afternoon thunderstorm. Possibly, the combination of high heat and wet afternoons combines to yield both forms during that part of the year.

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(Craig W. Marks, E-Mail: cmarks@landcoast.com)

CORRECTION: I need to correct some of the entries contained in my article in the last issue of the SLS newsletter. That article provided some additional Louisiana records which updated the data in my book. Specifically, in the entries for Hayhurst Scallopwing, Zebra Swallowtail and White M Hairstreak, I referenced sightings at Indian Bayou WMA which is located in St. Martin Parish, not St. Mary.

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WELCOME TO OUR NEW MEMBER

Darryl Willis

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"Cover illustration: First known drawing of a North American butterfly from the Modern Age: Eastern Tiger Swallowtail *(Papilio glaucus)* by John White, North Carolina, 1587 (original design by J.V. Calhoun, 1996)."

LIFE CYCLE OF CASSIUS BLUE (*LEPTOTES CASSIUS*, CRAMER, 1775)

BY

RONDA SPINK






Photos of the Cassius blue butterfly were taken in Crystal River, Florida.

(Ronda Spink, E-mail: rlovesbutterflies@gmail.com)

A VISIT TO THE HILLSBOROUGH RIVER SYSTEM

BY
JEFFREY SLOTTEN

On March 21st, 2020, Rick Gillmore and I met at the Shell Gas Station parking lot west of Interstate 75 on Fletcher Avenue in Tampa. Our goal was to search for *Catocala minuta* Edwards, 1864 (Little Underwing Moth) larvae on *Gleditsia aquatica* (Water locust). This is close to the southern end of the moth's range with Myakka State Park as the furthest south record at this time. This tree occurs in floodplain habitats along the Hillsborough River. It is a very local tree unlike its relative *Gleditsia triacanthos* (Honey locust) which is native to central North America and is planted commonly in cities.

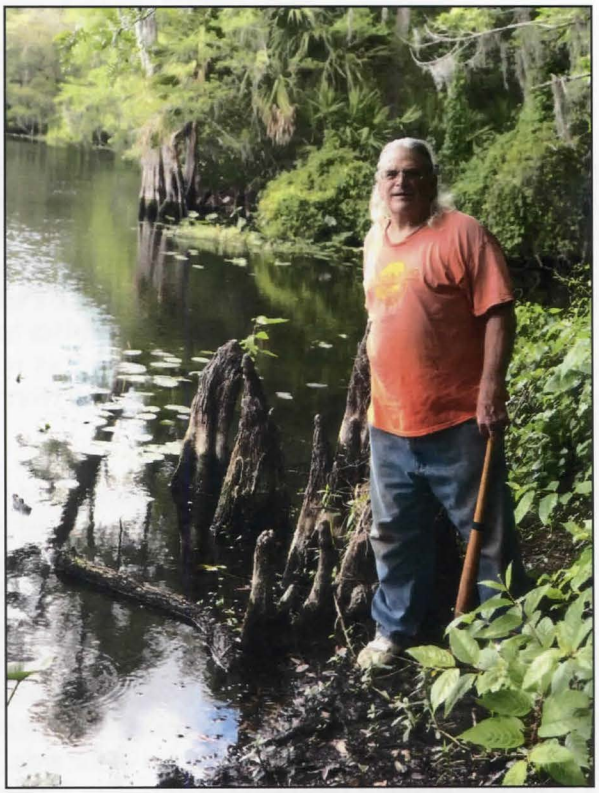
Jeff pointing out monarch pupa

Little did we know that this day was the beginning of the shutdown of public recreation areas in the Tampa area because of the Coronavirus (COVID-19). All areas that we desired to access were roped off and guarded by police and security personnel. We were able to park along Morris Bridge Road and look at the vegetation growing along the roadside. Though we saw a number of *Gleditsia*, we were unable to locate any larvae of *C. minuta*. We did find a pupa of *Danaus plexippus* (Monarch butterfly) growing at knee level on vegetation. Interestingly, we did not see any signs of the larval hostplant *Asclepias* in the area. I took the pupa home to Gainesville and it emerged the next day. Though it was a little deformed, this adult female was still able to fly and was released. I wonder if it would try to fly back to Tampa two hours south? Here are photos of two old lepidopterists Rick Gillmore and Jeff Slotten enjoying the day and looking at the pupa.

Monarch (*Danaus plexippus*) pupa up close.

Monarch (*Danaus plexippus*) just hatched.

Rick Gillmore checking out the Monarch pupa.



Rick Gillmore at a tributary of the Hillsborough River in Tampa, Florida. Note the Cypress trees and Spanish Moss.

(Jeff Slotten, E-mail: jslotten@bellsouth.net)

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FRANK MORTON JONES

BY

F. MATTHEW BLAINE

Frank Morton Jones was an interesting person who made major contributions to Natural Science, Entomology, Botany, and much more (Fig. A). He is a prime example of what many of us think of when we we hear the term "Citizen Scientist" recently replacing "Amateur" which refers to one's love of doing something as opposed to being the way one earns a living or "Professional".

A. Frank Morton Jones (McDermott, 1963, pg. 29)

Jones was born in 1869 in Wilmington, Delaware on January 13, to Joseph Jones and Deborah Jones. When he was 17 years old he began working for the John G. Baker Company and its successors, eventually including the Hills and Jones Company beginning in 1900. The Hills and Jones Company made machinery and tools (McDermott, 1963). It was a very successful company in Wilmington, Delaware where Jones "was Treasurer until his retirement in 1914" (McDermott, 1963 pg. 31).

In this same period of his life he began pursuing his scientific interests. These would occupy him until the end of his life. He was interested in various entomological areas including his specialty of micro lepidoptera and particularly interested in the Psychidae. In addition he also studied carnivorous plants, adaptive coloration, and insect food selection by birds.

In the 1880s he began making collecting trips that eventually took him to almost every state in the union. An important trip was a two month trip to California and Alaska in 1918. Jones additionally made trips to Alaska, Bermuda, England, Switzerland, and Western Europe.

In 1931, he received an honorary Doctor of Science Degree from The University of Delaware for his many achievements and contributions to the field of Natural Science. (Bartlett, 2020).

Dr. Jones had a vacation house on Martha's Vineyard where he spent many summers studying the local insects and plants (McDermott, 1963). He made several significant collections which he later donated to various institutions. One collection of "Delaware Lepidoptera" collected in Delaware and other northeastern states, was donated to the University of Delaware. It is still an important part of their collection.

He donated a large part of his collection to The Peabody Museum of Yale University. He wanted to make sure that they had a reference collection of microlepidoptera containing (at the time), a substantial number of northeastern species. In addition he donated a collection of insects reared from insectivorous plants, cabinets, and a large portion of his entomological library (Remington, 1954).

To the Smithsonian he donated microlepidoptera and a Spencer binocular microscope. Dr. Jones donated a collection of Heterocera and Orthopteran that he collected in Nantucket to the Academy of Natural Sciences of Philadelphia where he was a Research Associate in entomology.

Dr. Jones was a member of many scientific societies including The American Association for the Advancement of Science, the New York Entomology Society, The Entomology Society of America, The American Entomological Society, The Ecology Society, The Society of Natural History of Delaware, and was made a Fellow of the Royal Entomological Society of London in 1932. He was very active in all of the aforementioned groups and made major contributions to the body of knowledge (Mc Dermott, 1963).

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6. **Blaine, Dona,** 2020, proof reading and comments.

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NOTE ABOUT *CALOPTILIA TRIADICAE* ABUNDANCE

BY
STUART J. MARCUS

Liberty County, TX has a significant amount of Chinese Tallow (*Triadica sebifera*) occurring throughout many areas of the county, including Trinity River National Wildlife Refuge. The same can be said for much of the southeastern U.S. I first observed *Caloptilia triadicae* on my mercury vapor/black lighted sheet at the Trinity River NWR in July 2014 and have seen them during most months (except January, February, and March). They generally appeared in the single digits until the what I witnessed the night of May 15, 2020. I stopped counting after I reached 500 individuals as there were probably hundreds more. I'm not sure if this event will occur again or something that may happen on a regular basis. I will continue to observe the sheet regularly (4-5 nights per week) to see what, if anything may occur. Similarly, I'm not sure a thousand caterpillars munching on a single Chinese Tallow would cause its demise, but that would be nice!

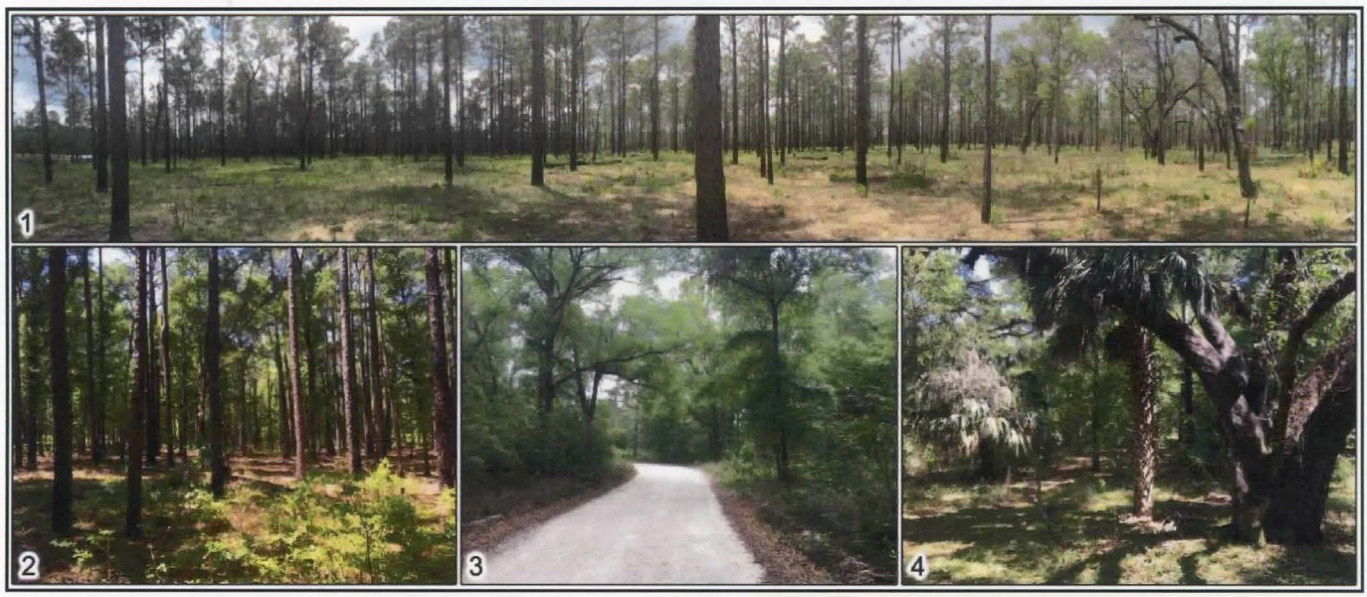
Caloptilia triadicae
(Tallow leaf roller)

DANCING DOGFACES OF THE WITHLACOOCHEE

BY

JOHN V. CALHOUN

One of the most reliable places to observe southern dogface butterflies (*Zerene cesonia*) in Florida is within the Citrus Tract of the Withlacoochee State Forest in Citrus County. Composed of nearly 50,000 acres of sandhills, upland hardwood forest, and sand pine scrub (Figs. 1-4), the Citrus Tract is only one segment of the Withlacoochee State Forest, an expansive network of non-contiguous natural areas totaling about 160,000 acres in Citrus, Hernando, Pasco, and Sumter counties. Six other primary units that make up the state forest are Croom, Headquarters (includes McKethan Lake), Homosassa, Jumper Creek, Richloam, and Two-Mile Prairie. The Citrus Tract is located southwest of the city of Inverness, and is one of the best localities in central Florida to observe federally endangered red-cockaded woodpeckers. The forest is named after the Withlacoochee River, which winds through the region. The name Withlacoochee is probably derived from the Creek language, meaning "little big water" or "river of lakes." The name is also claimed to mean "crooked river," which aptly describes the Withlacoochee's 141-mile winding course from the Green Swamp, northwest to the Gulf of Mexico. The river forms the boundaries between several counties and snakes through 13 miles of the Withlacoochee State Forest.



Figs. 1-4. Habitats within the Citrus Tract of the Withlacoochee State Forest.
1, Open longleaf pine sandhill (recently burned), where dogfaces are common.
2, more densely wooded sandhill.
3, road through upland hardwood forest.
4, hardwood forest interior.

Dogface butterflies are most common in open longleaf pine (*Pinus palustris*) sandhills (Fig. 1), particularly those with lush understories following natural fires or prescribed burns. The butterflies are on the wing from March to early November, though they are most frequent March-April and September-October. Their primary food plant in the area is summer farewell (*Dalea pinnata*), a semiwoody legume that is widespread in the sandhills. These brightly colored butterflies are conspicuous as they meander through the woods, just above the undergrowth. Males relentlessly seek females, and their slow, fluttering courtship flights resemble choreographed tangos (Figs. 5-10). Both sexes often visit flowers, especially during the afternoon (Fig. 11). Favorite springtime nectar sources include beggerticks (*Bidens alba*), blackroot (*Pterocaulon pycnostachyum*), Florida greeneyes (*Berlandiera subacaulis*), oblong twinflower (*Dyschoriste oblongifolia*), and whorled milkweed (*Asclepias verticillata*). Like other members of the family Pieridae, dogfaces are most active on warm, sunny days. At night and on cloudy days, they take refuge under leaves near the forest floor (Fig. 12). As we struggle to contain a global pandemic, it is comforting to know that dogface butterflies continue to dance in the sunshine of the Withlacoochee (Fig. 13).

Figs. 5-13. Dancing dogfaces of the Withlacoochee.
5, female (left) being pursued by male.
6, female (left) and male fluttering through vegetation.
7, male with torn forewing (right) chasing female.
8, pair casting shadows; female above male.
9, male (top) flying out ahead of female.
10, male passing closely beneath female.
11, male nectaring at blackroot.
12, female resting under oak leaf in cloudy weather.
13, pair (left) locked in sunlit courtship dance.

(John V. Calhoun, Email: bretcal1@verizon.net)

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BUTTERFLY CALENDAR PHOTOS

BY

BRYAN E. REYNOLDS

Here's part two of the calendar submission images. If you didn't see part one in the last issue, here's the scoop. At the beginning of January, 2020, I was contacted regarding the possible use of my photography for a butterfly calendar. They wanted to see some examples, so I searched my files and pulled 80 of my top shots. Besides technically good photos, the other criteria were clean backgrounds, fresh individuals, no skippers, and where possible, the subject nectaring from a flower (although this was not set in stone). Below is the second half of the selection of photos I submitted. The other half was in the last issue of the news.

Little Yellow, *Pyrisitia lisa*, nectaring from tall lespedeza, *Lespedeza stuevei*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 12 September 2017

Viceroy, *Limenitis archippus*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 22 September 2017

Southern Dogface, *Zerene cesonia*, nectaring from pitcher sage, *Salvia azures* var. *grandiflora*, Chickasaw National Recreation Area, Murray County, Oklahoma, on 13 October 2017

Gulf Fritillary, *Agraulis vanillae*, nectaring from thistle, *Cirsium* sp. , Chickasaw National Recreation Area, Murray County, Oklahoma, on 13 October 2017

White Peacock, *Anartia jatrophae*, nectaring from skeleton-leaf goldeneye, *Viguiera stenoloba*, Frontera Audubon, Weslaco, Hidalgo County Texas, on 29 October 2017

Gulf Fritillary, *Agraulis vanillae*, on mist flower, *Conoclinium* sp., Resaca De La Palma State Park, Cameron County, Texas, on 1 November 2017

Band-celled Sister, *Adelpha fessonia*, on mist flower, *Conoclinium* sp., Resaca De La Palma State Park, Cameron County, Texas, on 2 November 2017

Tailed Orange, *Pyrisitia proterpia*, on mist flower, *Conoclinium* sp., Resaca De La Palma State Park, Cameron County, Texas, on 2 November 2017

Lyside Sulphur, *Kricogonia lyside*, nectaring from skeleton-leaf goldeneye, *Viguiera stenoloba*, Falcon State Park, Starr County, Texas, on 4 November 2017

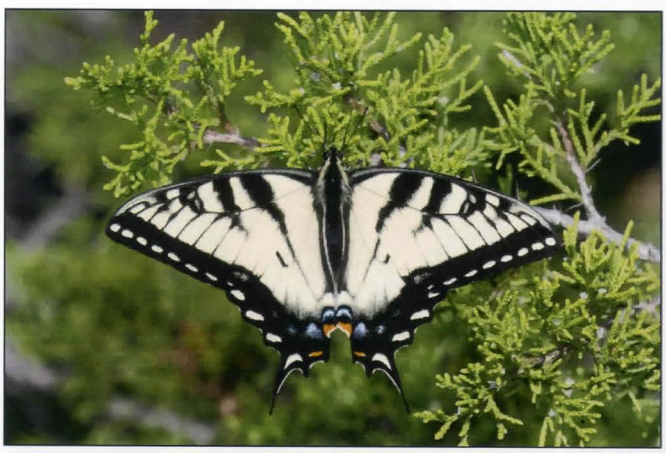
Blomfild's Beauty, *Smyrna blomfildia*, Falcon State Park, Starr County, Texas, on 4 November 2017

Black Swallowtail, *Papilio polyxenes*, male, Chickasaw National Recreation Area, Murray County, Oklahoma, on 21 March 2018

Black Swallowtail, *Papilio polyxenes*, male, Chickasaw National Recreation Area, Murray County, Oklahoma, on 21 March 2018

Eastern Tiger Swallowtail, *Papilio glaucus*, male basking, Little River National Wildlife Refuge, McCurtain County, Oklahoma, on 31 March 2018

Pipevine Swallowtail, *Battus philenor*, male basking, Little River National Wildlife Refuge, McCurtain County, Oklahoma, on 31 March 2018



Eastern Tiger Swallowtail, *Papilio glaucus*, basking, Chickasaw National Recreation Area, Murray County, Oklahoma, on 21 March 2018

Giant Swallowtail, *Papilio cresphontes*, basking, Little River National Wildlife Refuge, McCurtain County, Oklahoma, on 30 April 2018

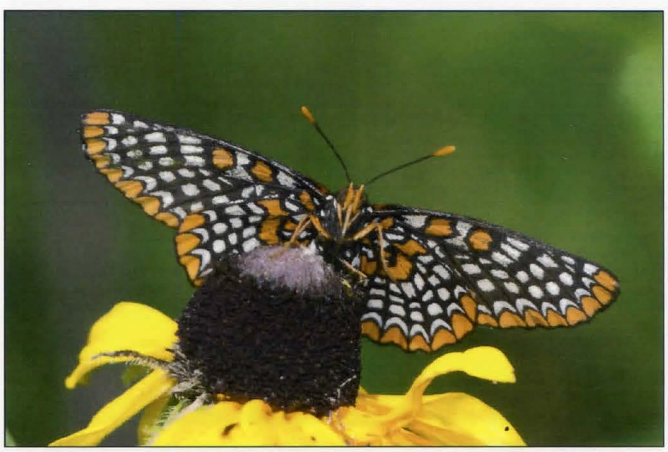
American Lady, *Vanessa virginiensis*, on purple coneflower, *Echinacea angustifolia*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 26 May 2018

Eastern Tailed-Blue, *Cupido comyntas*, on orange milkweed, *Asclepias tuberosa*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 2 June 2018

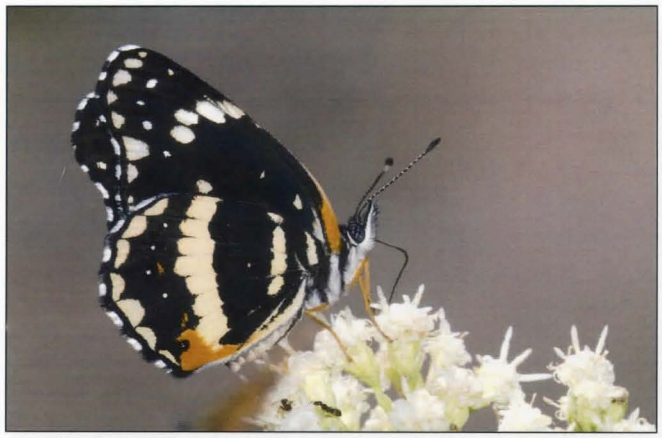
Soapberry Hairstreak, *Phaeostrymon alcestis*, on orange milkweed, *Asclepias tuberosa*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 0n 6 June 2018

Common Buckeye, *Junonia coenia*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 6 June 2018

Summer Azure, *Celastrina neglecta*, female dorsal basking, Puchyan Prairie State Natural Area, Green Lake County, Wisconsin, on 6 July 2018



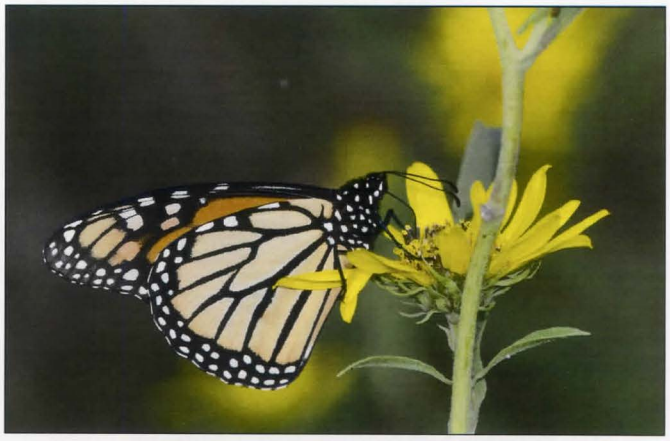
Baltimore Checkerspot, *Euphydryas phaeton*, nectaring on black-eyed Susan, *Rudbeckia hirta*, Puchyan Prairie State Natural Area, Green Lake County, Wisconsin, on 6 July 2018



Bordered Patch, *Chlosyne lacinia*, nectaring from seep-willow, *Baccharis salicifolia*, Coronado National Forest, Box Canyon, Pima County, Arizona, on 30 July 2018

Bordered Patches, *Chlosyne lacinia*, mud-puddling, Coronado National Forest, Box Canyon, Pima County, Arizona, on 1 August 2018

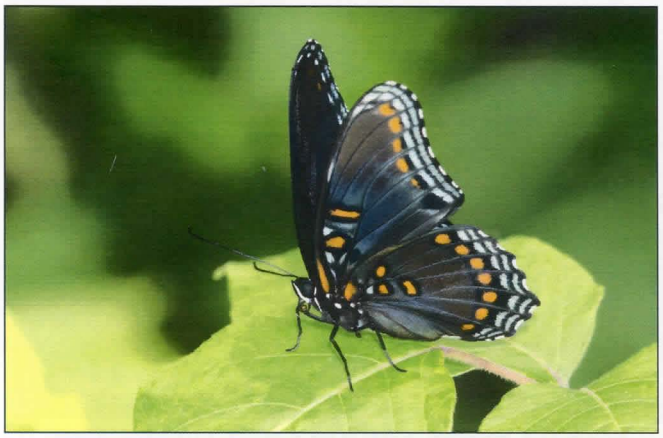
Elada Checkerspot, *Texola elada*, nectaring on scarlet spiderling, *Boerhavia coccinea*, Coronado National Forest, Box Canyon, Pima County, Arizona, on 3 August 2018



Monarch, *Danaus plexippus*, male nectaring from Maximilian sunflower, *Helianthus maximiliani*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 7 October 2018

American Lady, *Vanessa virginiensis*, nectaring from meadow garlic, *Allium canadense*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 23 May 2019

Eastern Tailed-blue, *Cupido comyntas*, male, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 24 May 2019



Red-spotted Purple, *Limenitis arthemis astyanax*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 24 May 2019

Common Buckeye, *Junonia coenia*, wing detail, Rick Evans Grandview Prairie Wildlife Management Area, Hempstead County, Arkansas, on 30 May 2019

Pipevine Swallowtail, *Battus philenor*, Stone Road Glade Natural Area, Howard County, Arkansas, on 31 May 2019

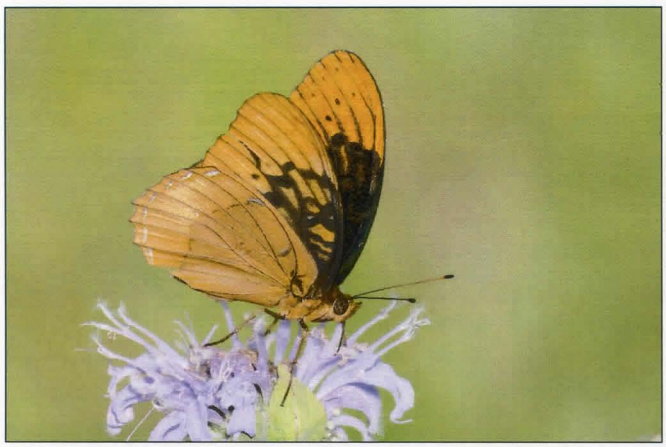
Coral Hairstreak, *Satyrium titus*, nectaring from orange milkweed, *Asclepias tuberosa*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 7 June 2019

Banded Hairstreak, *Satyrium calanus*, nectaring from orange milkweed, *Asclepias tuberosa*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 7 June 2019

Viceroy, *Limenitis archippus*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 26 June 2019

Harvester, *Feniseca tarquinius*, perched in sunspot in deeply shaded woods, Lexington Wildlife Management Area, Cleveland County, Oklahoma, on 26 June 2019

Juniper Hairstreak, *Callophrys gryneus*, nectaring on buttonbush, *Cephalanthus occidentalis*, Cherokee Wildlife Management Area, Cherokee County, Oklahoma, on 1 July 2019



Diana Fritillary, *Speyeria diana*, male nectaring on wild bergamot, *Monarda fistulosa*, Cherokee Wildlife Management Area, Cherokee County, Oklahoma, on 1 July 2019

Eastern Tiger Swallowtail, *Papilio glaucus*, female nectaring on American star-thistle, *Plectocephalus americanus*, Cherokee Wildlife Management Area, Cherokee County, Oklahoma, on 2 July 2019

Southern Dogface, *Zerene cesonia*, nectaring on American star-thistle, *Plectocephalus americanus*, Cherokee Wildlife Management Area, Cherokee County, Oklahoma, on 2 July 2019

Pearl Crescent, *Phyciodes tharos*,.Central Park, Lewisville, Denton County, Texas, on 24 July 2019

(Bryan Reynolds, E-Mail: nature_photo_man@hotmail.com)

TEN-YEAR OLD RESCUES EARLY HAIRSTREAK IN ALABAMA

BY
PAULETTE OGARD

Sometimes truth really is stranger than fiction. On April 2, ten-year old Jeremiah Butler saw a butterfly struggling in a pond in the woods. He fished it out with a stick. Before it was finally able to fly away, he and his mother snapped a photo. Jeremiah wanted to know what kind of butterfly it was, so they used the Seek app and came up with Clytie Ministreak, typically a resident of southern Texas. They then made their first and only posting on iNaturalist. It didn't take long to determine that the minty-green little butterfly was actually an Early Hairstreak.

Early Hairstreaks have been documented in Alabama only three times. All (including this one) have been in Jackson County, located in the extreme northeast corner of the state. Howard Grisham encountered one in April 2004 near Holly Tree. The singe female was nectaring on Beaked Corn Salad, in the company of Red-banded and Juniper Hairstreaks [Grisham, Howard, "Hooked at Davis Cove." *Southern Lepidopterists' News* 26.2 (2004):34.] In April 2014, a female was seen flying and then settling on the leaf litter along a hiking trail at the Walls of Jericho, where Wayne Barger photographed it [Barger, Wayne T. and Brian Holt, "Photodocumentation of *Erora laeta* Early Hairstreak (Lycaenidae) in Jackson County, AL", *The Journal of the Alabama Academy of Science* 85.1 (2014):37-39]. Diligent searches followed, but no Early Hairstreaks were seen.

Early Hairstreak photographed by the Butlers (April 2, 2020).

As for Jeremiah's Early Hairstreak sighting, his mother said, "After we took a picture, we didn't see where else it went. We were just glad to see it was still able to fly. I wish we had known how rare it is! We would have paid more attention." She assures us that if they see one again, they will let us know. And who knows — in a world where truth is stranger than fiction, maybe they will.

If you have information about Early Hairstreaks in Alabama, please contact the Alabama Butterfly Atlas at albutterflyatlas@gmail.com.

(Paulette Ogard, E-Mail: habitatdesigns@hotmail.com)

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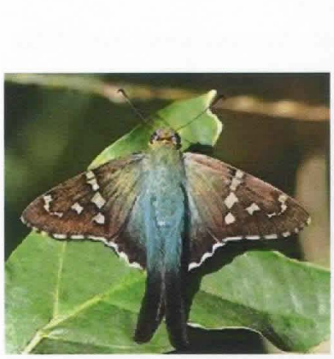
"DOWNTOWN BUTTERFLIES"

BY

LINDA BARBER AULD, NOLA BUGLADY

A VISIT TO TULANE RIVER AND COASTAL CENTER



Long-Tailed Skipper **Black Swallowtail** **Monarch**

On Sunday, April 19, I visited the Tulane River and Coastal Center garden where the Native Plant Initiative held their meeting back in June of 2019. I wanted to see this oasis nestled next to Mardi Gras World and the Mississippi River to see how the plants were liking their home in the downtown concrete jungle.

This native plant smorgasbord garden was sponsored by Tulane Bywater Institute and was planted by Tulane folks assisted by Susan Norris-Davis. She told me, " My connection here is that Mark Davis, my husband, is the current director of the Bywater Institute and he asked me to help install the garden." Here's a link: bywater.tulane.edu

Once a week Susan has been volunteering her time to tend this garden and her tender loving care has created a spot for nature's creatures to thrive. Seeing green plants and flowers in an area totally surrounded by buildings and paved streets not only provides sustenance for butterflies and pollinators but also brings smiles to human faces!

This garden is another perfect example of the saying, "Plant it and they will come!" During her weekly visits, Susan has enjoyed seeing Long-tailed Skippers collecting nectar from flowers plus she found a clutch of eggs on the Wisteria vine and a fat Black Swallowtail caterpillar! During my visit even though the weather was cloudy and windy, I saw a trio of insects: Lady bugs, Groundsel Bugs, and some Honey Bees. However what really caught my attention was the sea of native Aquatic milkweed sticks with twenty-two fat Monarchs chewing every last leaf. Insects have found this oasis and are benefiting from its bounty! When adding native plants to your garden, you will be successful growing them if you can replicate the growing conditions these plants use in nature's varying habitats. Seeing these plants in action displayed in public locations also helps gardeners to determine which ones they would like to add to their own gardens as an invitation to enhance their butterfly and pollinator activity.

The impressive current plant list at this garden:

American Wisteria *Wisteria frutescens*
Aquatic Milkweed *Asclepias perennis*
Azure Sage *Salvia azurea*
Blue-Eyed Grass *Sisyrinchium spp.*
Blue False Indigo *Baptisia australis*
Blue Mistflower *Conoclinum coelestinum*
Blue Violet *Viola sororia*
Buttonbush *Cephalanthus occidentalis*
Crimson-eyed Rosemallow *Hibiscus moscheutos*
Common Rush *Juncus effusus*
Crinum Lilies *Crinum americanum*
Dwarf Palmetto *Sabal minor*
Dwarf Wax Myrtle *Morella cerifera*
Dwarf Yaupon *Ilex vomitoria*
Eastern Redbud *Cercis canadensis*
Elliot's Lovegrass *Eragrostis elliottii*
False Indigo *Amortha fruticosa*
Gaura *Oenothera lindleimeri*
Giant Ironweed *Vernonia gigantea*
Golden Tickseed *Coreopsis tinctoria*
Gulf Beardtongue *Penstemmon tenuis*
Halberdlleaf Hibiscus *Hibiscus laevis*
Indian Blanket *Gaillardia pulchella*
Lanceleaf tickseed *Coreopsis lanceolata*
Louisiana Iris *Iris species* donated
Lyreleaf Sage *Salvia lyrata*
Narrowleaf Mountainmint *Pycnantemum tenuifolia*
Partridge Pea *Chamaecrista fasciculata*
Purple Echinacea *Echinacea purpurea*
Scarlet Star Hibiscus *Hibiscus coccineus*
Seaside Goldenrod *Sempervirens solidago*
Slender Rosinweed *Silphium gracile*
Southern Lady Fern *Athyrium filix-femina*
Swamp Milkweed *Asclepias perennis*
Switchgrass *Panicum virgatum*
Virginia Sweetspire *Itea virginica*
Weeping Yaupon *Ilex vomitoria*
White Penstemon *Penstemon digitalis*
White-top Sedge *Rynchospora colorata*
Winecup *Callirhoe involucrata*
Yellow Wild Indigo *Baptisia sphaerocarpa*

Thank you, Susan Norris-Davis,
for your dedication and excellent work!

Photos by Linda Barber Auld (E-mail: nolabuglady@gmail.com)

For more information regarding butterfly native plants check out my websites: www.nolabuglady.com also visit my Facebook page: Linda Barber Auld www.barberlaboratories.com

Linda Barber Auld, better known as NOLA BugLady, owns and operates Barber Laboratories, a three generation "You Buy it, You Apply it" pest control supply store located in Harahan. She has also raised butterflies for over 40 years and last year self-published her first book, "BugLady's Butterfly Summer" which is available at the store or on the website. You can also purchase native butterfly nectar and caterpillar host plants at her store. Website will post the available plant list each month. Linda's mission statement is "I sell death for pests and promote life for the rest!"

GOSSAMERWINGS AND METALMARKS (LYCAENIDAE, RIODINIDAE) OF ARKANSAS

BY

HERSCHEL D. RANEY, JR., AND COLLABORATORS

The distribution maps presented on the following pages represent all 29 lycaenid and 2 riodinid species known to have been recorded in Arkansas to date **(Figs. 1, 2)**. The array of maps is a continuation of reporting in the *Southern Lepidopterists' News*, begun in 2019, on Arkansas' butterfly life (website featured, 41(2): 116-117; hesperiid maps, 41(4): 311-323).

The maps are 'working drafts' based on the "Butterflies of Arkansas" website [http://www.hr-rna.com/RNA/Butterfly%20main.htm]. Sources of the mapped records include voucher specimens, sharp digital photographs of selected species, and reporting from experienced observers.

Additional records are invited and welcome from field observers, collection managers, and other naturalists, in an on-going effort to increase the maps' accuracy and usefulness. Recent observations of *Calephelis borealis, Celastrina nigra, Satyrium edwardsii*, or *S. kingi* would be of special interest, for example.

Nomenclature: Technical nomenclature in this report, and the sequence in which taxa are arranged, follows Pelham (2008, A catalogue of the butterflies of the United States and Canada with a complete bibliography of the descriptive and systematic literature, *Journal of Research on the Lepidoptera* 40: xiv + 658 pp.). Spelling changes in species names have been made in 2 cases, reflecting current use (*S. caryaevorum, B. exile*).

Symbols used: In the legend beneath each figure, the species' unique **P** number (referring to Pelham 2008) is given, followed by the particular taxon's Hodges (1983) 'MONA' number in brackets with the prefix **H83**. An asterisk (*) placed to the right of a **P** number indicates that the particular species is regarded as a stray or vagrant in the state (4 cases). A key to the use of colored dots, with the names of contributors on whose records the maps are based, is included at the end of this report.

Sincere appreciation is extended to the many devoted observers who have provided records for this mapping effort.

Fig. 1. At left below. Arkansas' 6 ecoregions [Arkansas Natural Heritage Commission].

Fig. 2. At right below. Loess deposit, Crowley's Ridge (NE Arkansas) [www.arkansas.com].

DISTRIBUTIONAL MAPS OF ARKANSAS LYCAENIDAE AND RIODINIDAE

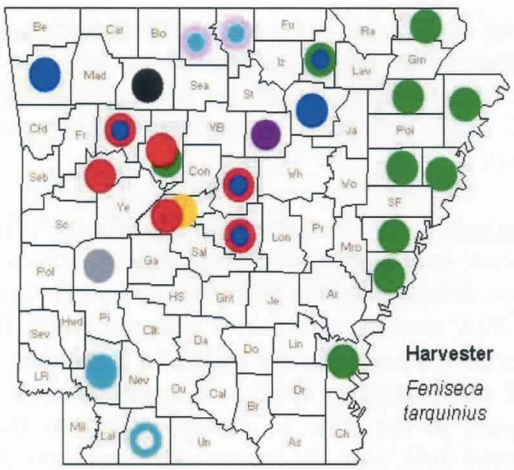


Fig. 3. P**400** [H83:4249].

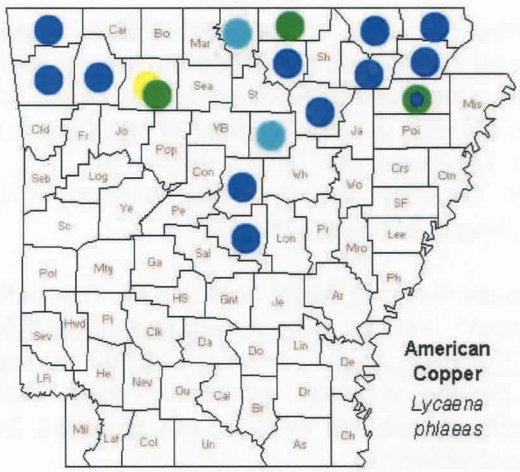


Fig. 4. P**401** [H83:4251].

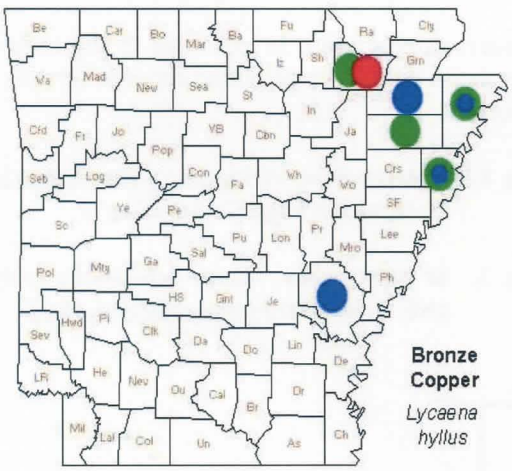


Fig. 5. P**411** [H83:4256].

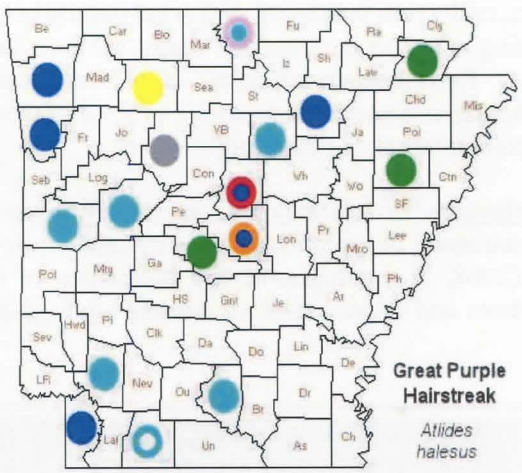


Fig. 6. P**422** [H83:4270].

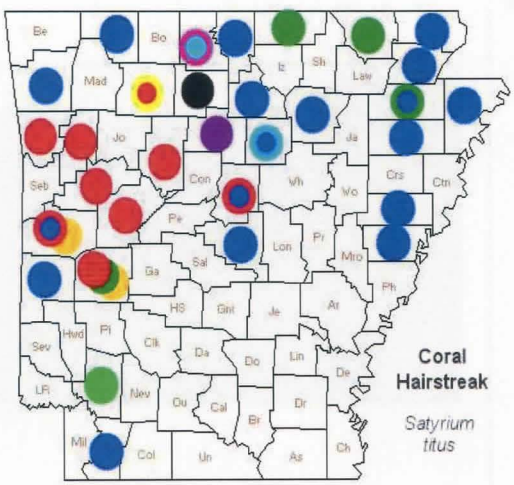


Fig. 7. P**432** [H83:4275].

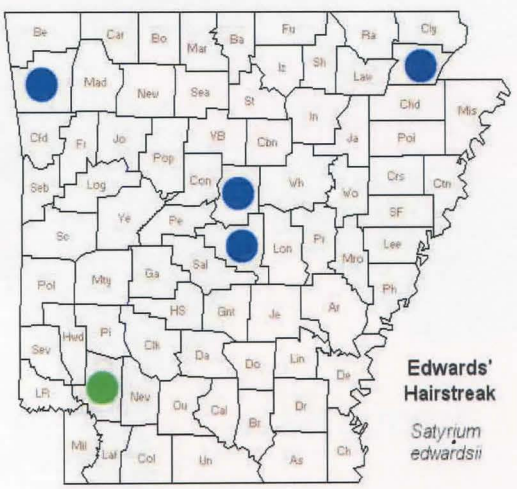


Fig. 8. P**433** [H83:4281].

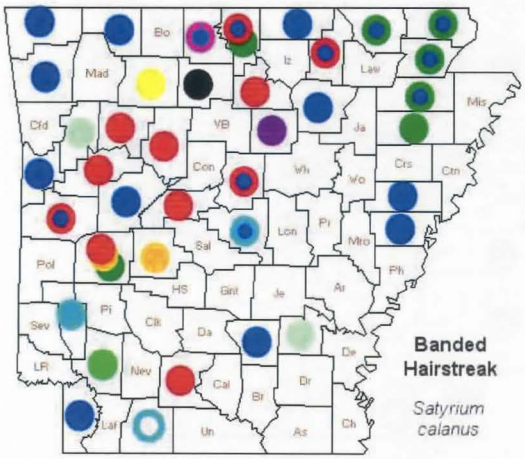


Fig. 9. P**434** [H83:4282].

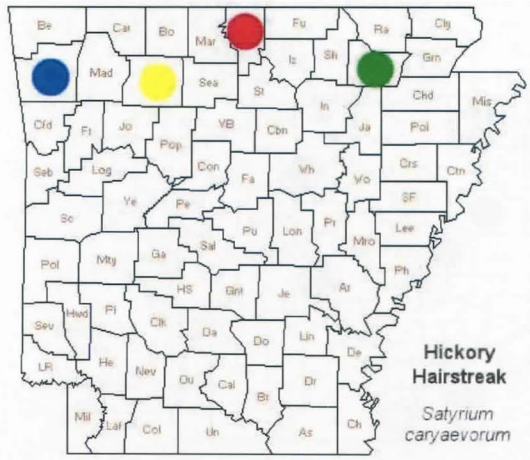


Fig. 10. P**435** [H83:4283].

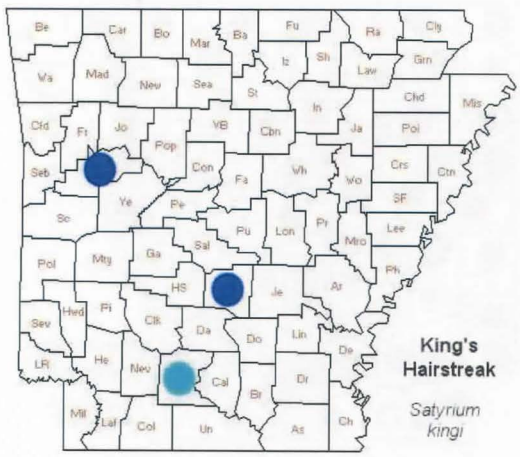


Fig. 11. P**436** [H83:4284].

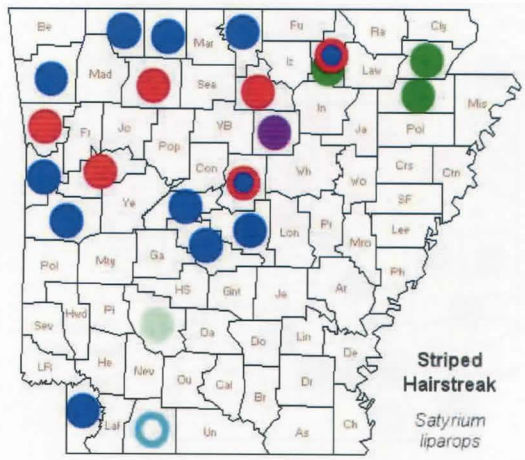


Fig. 12. P**437** [H83:4285].

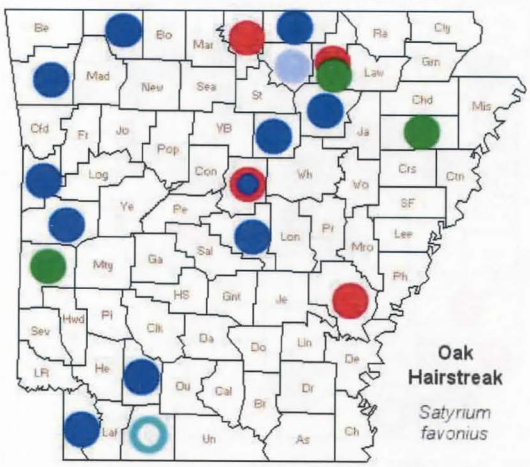


Fig. 13. P**441** [H83:4331].

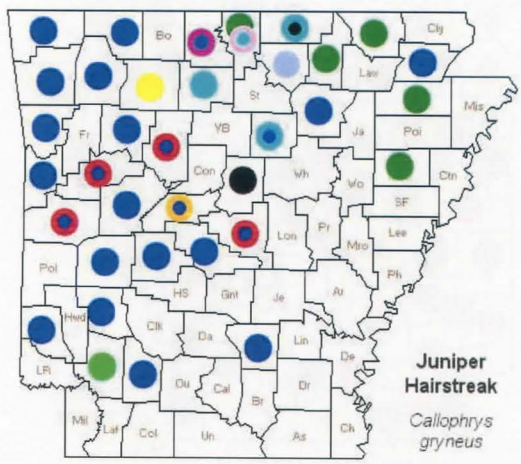


Fig. 14. P**456** [H83:4318].

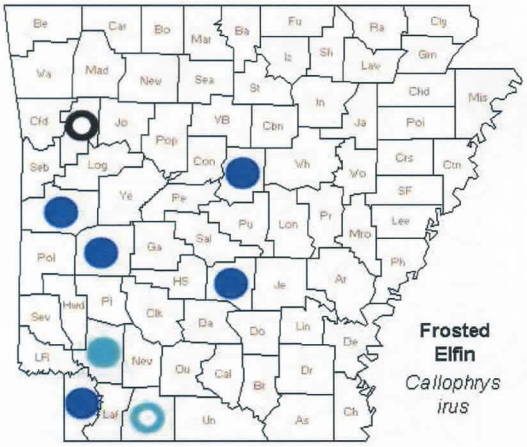


Fig. 15. P**468** [H83:4325].

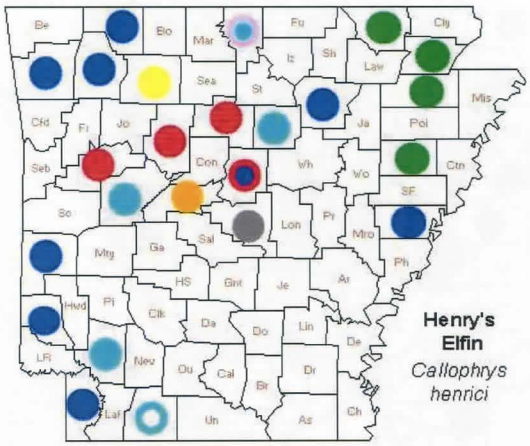


Fig. 16. P**469** [H83:4326].

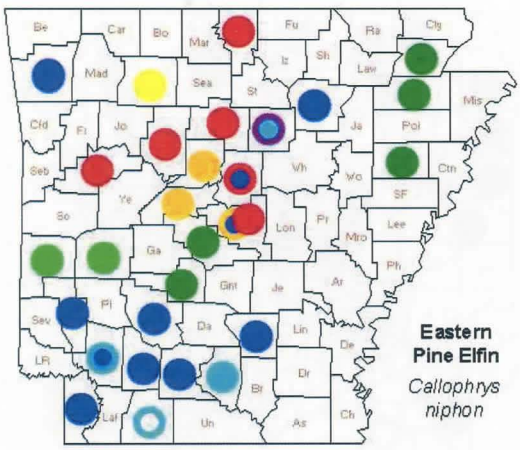


Fig. 17. P**471** [H83:4328].

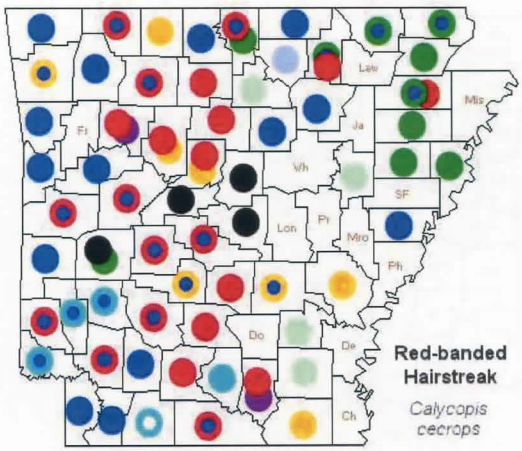


Fig. 18. P**478** [H83:4299].

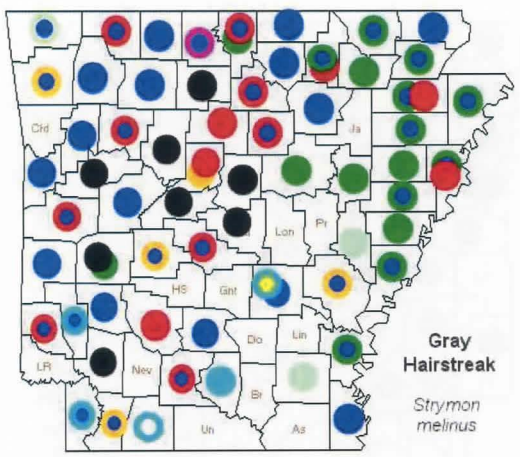


Fig. 19. P**480** [H83:4336].

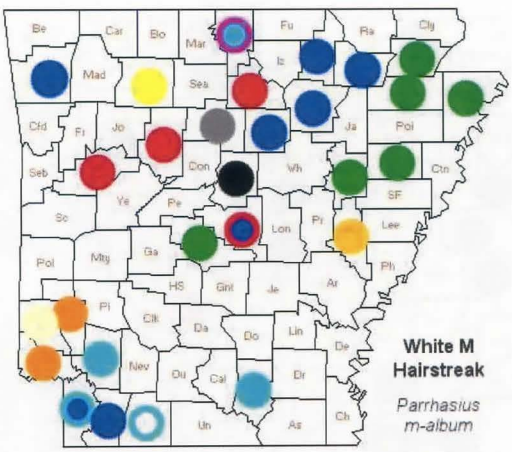


Fig. 20. P**500** [H83:4335].

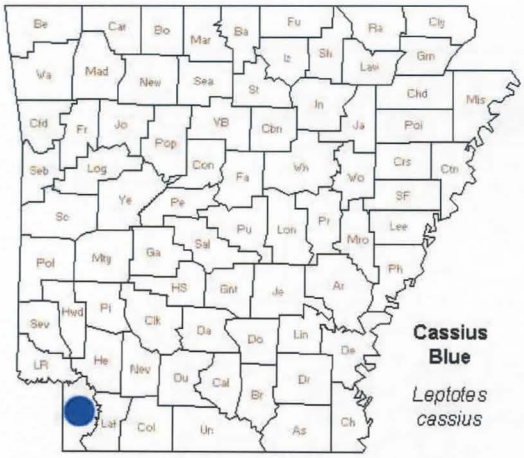


Fig. 21. P505* [H83:4356].

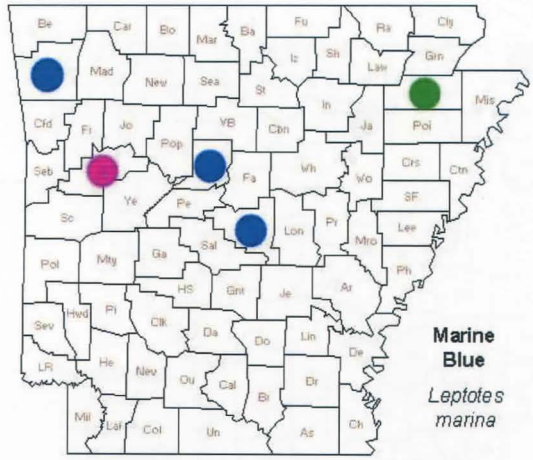


Fig. 22. P506* [H83:4357].

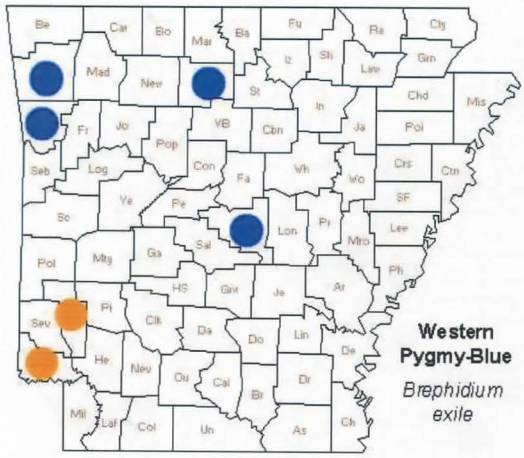


Fig. 23. P507* [H83:4353].

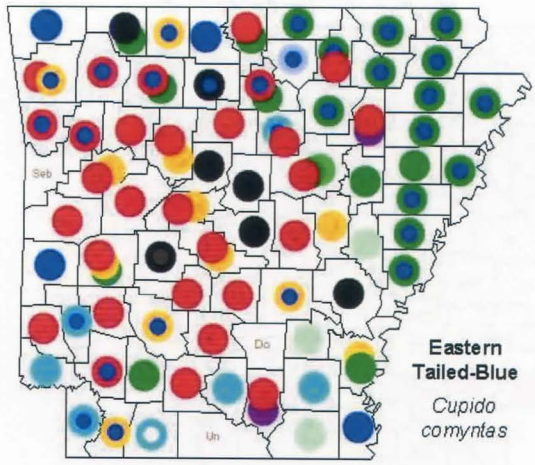


Fig. 24. P510 [H83:4361].

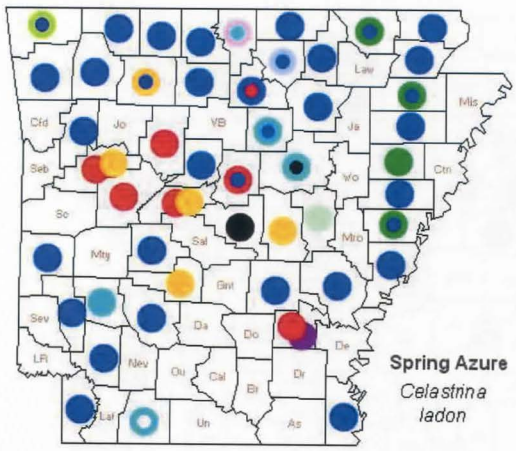


Fig. 25. P514 [H83:4363].

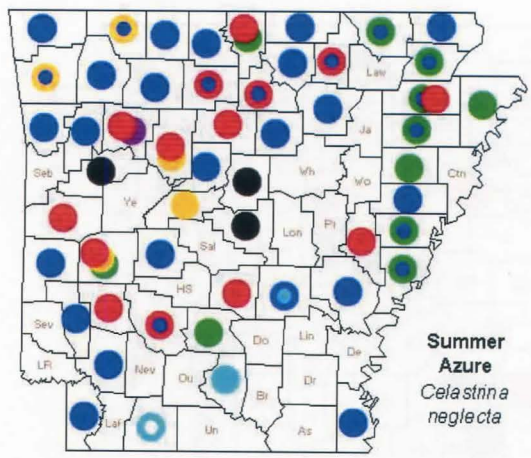


Fig. 26. P517 [H83:4363.7].

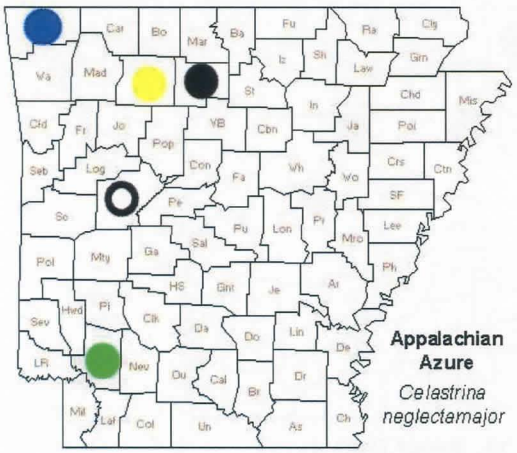


Fig. 27. P**519** [H83:4363.4].

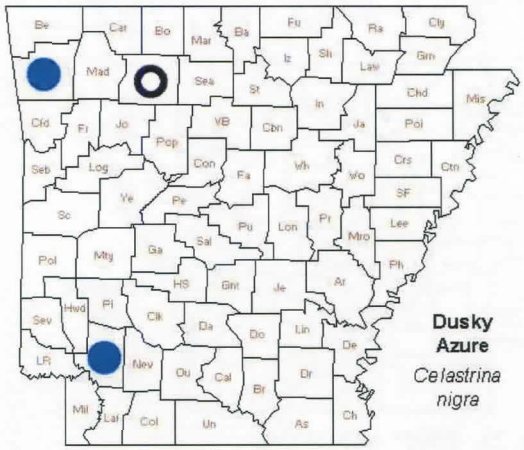


Fig. 28. P**520** [H83:4364].

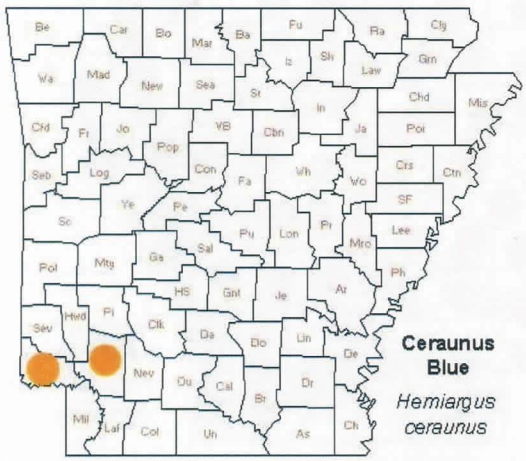


Fig. 29. P**522*** [H83:4359].

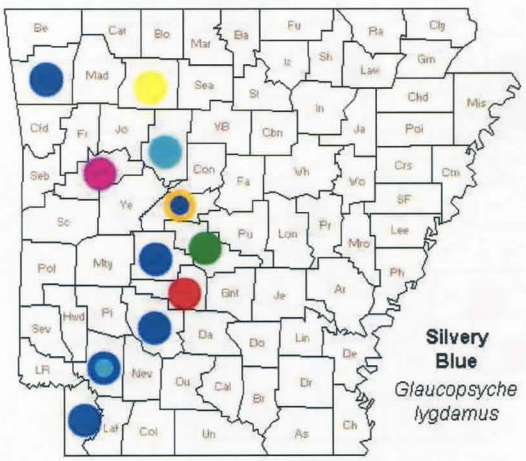


Fig. 30. P**540** [H83:4372].

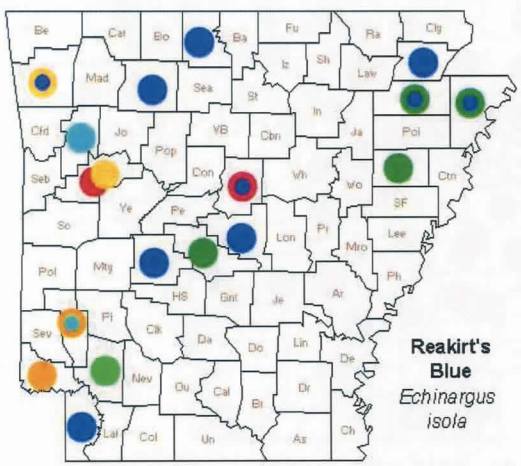


Fig. 31. P**543** [H83:4360].

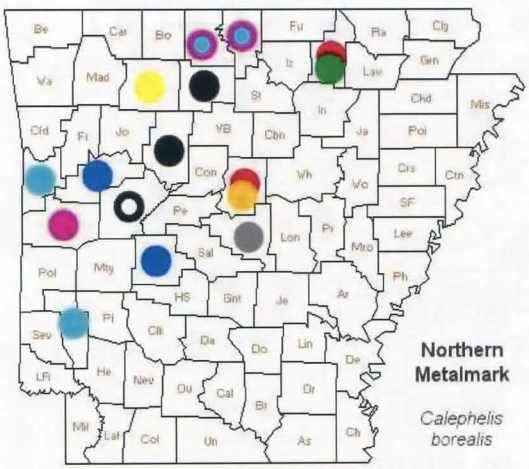
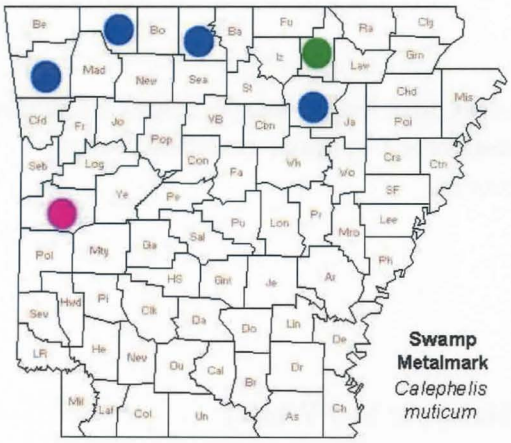


Fig. 32. P**558** [H83:4387].

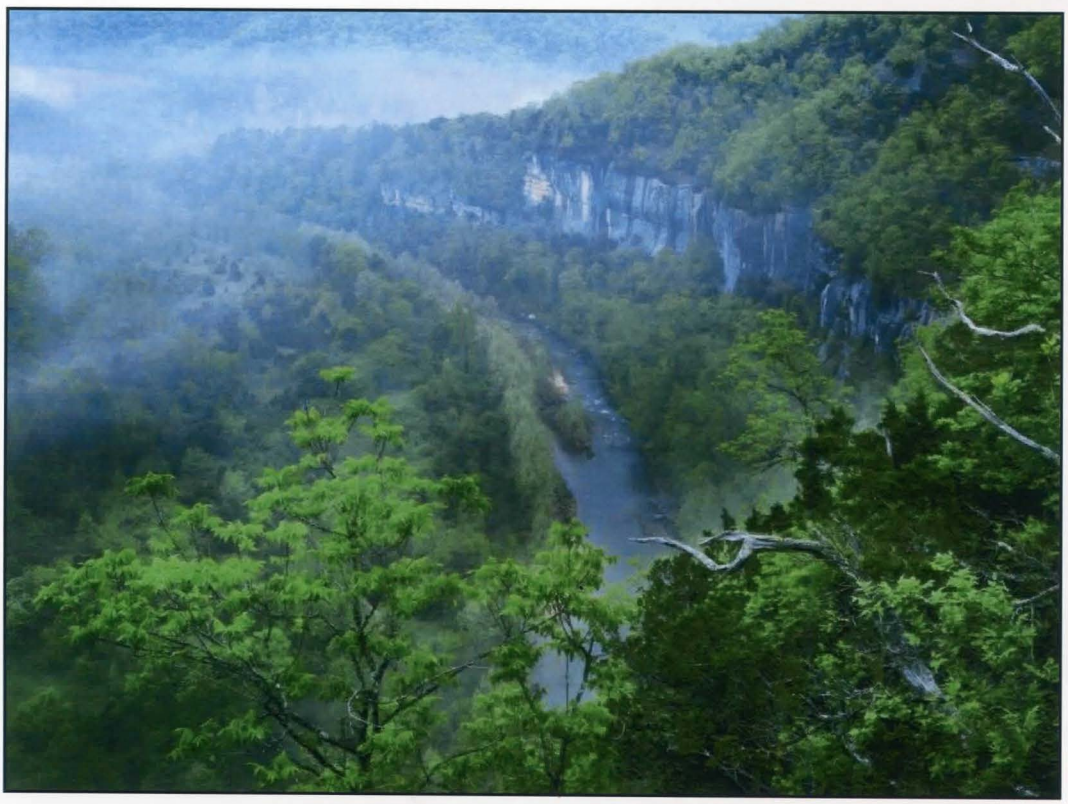


Swamp Metalmark
Calephelis muticum

Fig. 33. P559 [H83:4391].

Figs. 3-33, Raney *et al.* (2019).

Cameron Bluff, Mt. Magazine State Park, NW Arkansas [Tom Kennon Photography].



Roark Bluff, Buffalo National River, NW Arkansas [Charles Gurche].

List of Collaborators & KEY to Colored dots

DARK BLUE dots: **USGS** surveys, pre-2004 ('baseline' records, incl. historical specimen collections).
DARK-BLUE-CENTERED dots: prior **USGS** records **confirmed** by more-recent sightings.
RED: Herschel **Raney** & Eric **Haley** & **Mt. Magazine** records.
ORANGE: Mel **White.**
DARK GREEN: Norman & Cheryl **Lavers.**
PINK: Lori A. **Spencer.**
YELLOW: Bob **Barber.**
GRAY: Tom **Lewis.**
BLACK: 3-sourced records (**USGS,** the **Lavers, Raney/Haley,** or Mel **White**).
BRIGHT GREEN: Heritage Commission lists (specimens or visual).
PEACH: Bill **Shepherd** &/or Lyndal **York.**
PURPLE: Bo **Verser.**
PALE BLUE: other (photographs).
PALE GREEN: Dan & Samantha **Scheiman.**
PURPLE with **TURQUOISE** centers: Rose **Maschek** (N. Arkansas).
TURQUOISE with **BLACK** centers: Kenny & LaDonna **Nichols** (post-2012).
TURQUOISE with **WHITE** centers: Devin **Moon** (Columbia Co. & SW Arkansas, 2016).
BLACK with **WHITE** centers: survey **(2010)** & action-plan papers from Baltosser, Rudolph, Ely, & Scheiman **(2015)**.
TURQUOISE dots: **other** observers (visual records).

(Herschel D. Raney, Jr., E-Mail: hrdragonfly1958@gmail.com)

Possumhaw holly (*Ilex decidua*) in flower [Will Cook 2009].

Possumhaw holly (*Ilex decidua*) in fruit [www.finegardening.com].

"MIGRATING MONARCHS — IT'S THAT TIME"

BY
LINDA BARBER AULD, NOLA BUGLADY

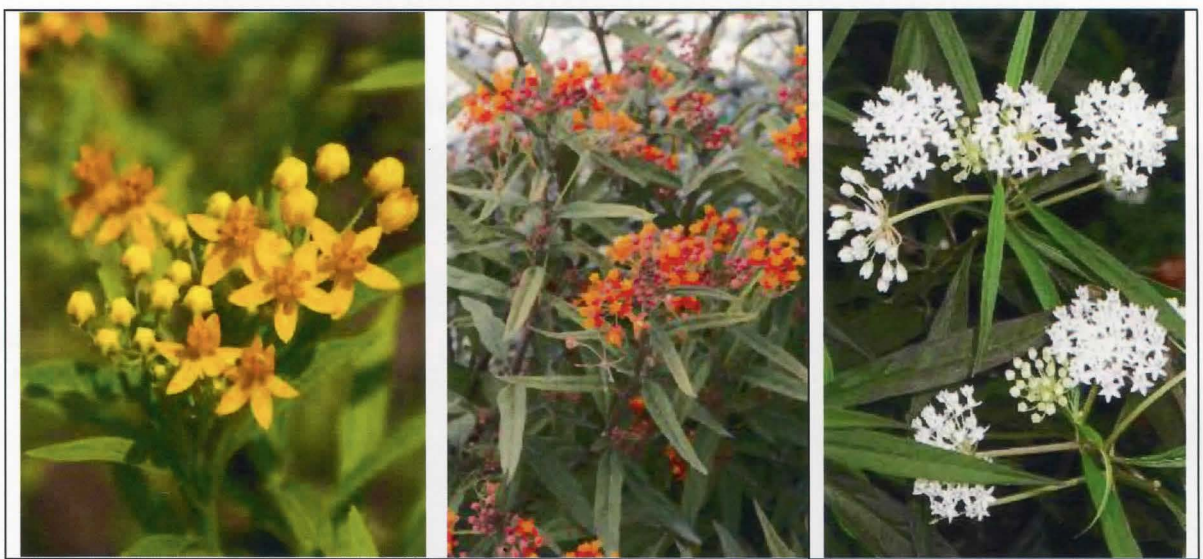
In early March Monarchs began leaving their Mexican forest over-wintering grounds and headed north. Folks from all over Louisiana have been watching weathered migrant Monarchs visiting their flowers. In my gardens, male Monarchs are patrolling their "space" as they wait for females to stop by for a nectar snack and to lay eggs. The presence of stripped milkweed stalks and fat caterpillars make it pretty obvious that females have accepted my invitation to dine when I wasn't looking.

In 2013 Monarch Watch, the national organization that monitors the Monarch populations in their over-wintering grounds in Mexico, reported the lowest number in recorded history. Since then, scientists in all the major universities have been working on this issue to determine the cause. Through their scientific studies, several major breakthroughs have been discovered to help us understand how to proceed as folks who garden specifically for Monarchs. Knowing the facts, each of us will react to this issue on our own time and situation.

First, Monarch caterpillars that eat tropical milkweed will develop smaller wings. This means those butterflies, in the fall, will have less ability to fly to Mexico and so will likely join and become part of the resident population that overwinters in our area. The fact that the tropical milkweed plants grow vigorously and regenerate leaves very quickly helps the Monarch caterpillars eat from the same plants one life cycle to the next. The repeated use of these plants allows the protozoan spore parasite, "O.E." (*Ophryocystic elektroscirrha*) to spiral out of control. South Louisiana has the greatest problem with this issue. The horrible effects of O.E. has been witnessed and reported throughout the metro New Orleans area; only spotty areas have been infected in Baton Rouge. Google "What is O.E.?" by Linda Barber Auld to read my explanatory article or visit my website: www.nolabuglady.com for more information. *Second, when the late spring temperature exceeds 80 degrees, it may be too hot for the Monarchs to sustain long-distance flying (migrate).* Therefore, they reproduce in place as non-migrators, using the same milkweed plants over and over, which brings us back to the same scenario I just described.

In this electronically connected age in which we live, I am amazed that many butterfly gardeners have still never heard of O.E. and its connection to tropical milkweed. Tropical milkweed plants originated in Mexico and since the 1950's have been sold at garden centers everywhere because it's an attractive plant, the caterpillars love it, it is very easy to grow, and it

Non-Native versus Native Milkweed plants



"Silky Gold"	"Scarlet"	"Aquatic"
Asclepias currassavica	*Asclepias currassavica*	*Asclepias perennis*
NOT NATIVE	**NOT NATIVE**	**NATIVE**

regenerates its leaves quickly. For years we caterpillar Mamas have depended on it to feed our babies. However, when hiking Louisiana woods, you will not see tropical milkweed growing because it is not native. Because it has been growing in our gardens *where we planted it* for so long, we think it has become naturalized. Not so. Native milkweeds are very slow growing and once they have been chewed down by caterpillars, the plants take awhile to re-sprout.

There is, as far as I know, only one native milkweed in the historical record for our New Orleans area and that is Aquatic milkweed, *Asclepias perennis*. A Tulane University herbarium specimen documents it growing here since 1890. The Aquatic milkweed can be grown in the shade or sun, in a pot or the ground, even in standing water!

Christen Steele, a Tulane University researcher who is currently working on her fourth year of studying this issue, has been monitoring tropical milkweed in over forty gardens in the Uptown/Carrollton area. Her work has uncovered some shocking statistics of the current high O.E. levels. If you have tropical milkweed in your gardens and want to be a part of her very important study program as a Citizen Scientist, you can contact Christen at csteele3@tulane.edu for more information.

Blackened failed chrysalises, failed hatching and deformed wings are signs of serious O.E. infection. For those gardeners who have seen these, it is recommended to cut down your tropical milkweed several times during the months of May through November to attempt slowing down the O.E. outbreak. Continue to offer hungry adult butterflies blooming nectar plants. Your milkweed plants that already have caterpillars on them can be netted using a tomato cage as a frame to allow the existing caterpillars to finish and pupate. The netting prevents other female Monarchs from "egg-bombing" another go-round of eggs and caterpillars on the same plant thus slowing the parasite. When the plant is free of caterpillar and chrysalis activity, it can be cut back.

Information you see through websites hosted by Monarch Watch, Monarch Health, and Journey North is accurate and correct. Always consider the source when reading articles about Monarchs and their many troubles. What can you do to help Monarchs? Replacement of the non-native with native is always a good thing. More and more garden centers are getting the message that there is a demand for change and they are stocking more native plants. Ask for them and they will supply. Add more blooming nectar plants for the adult butterflies. And remember there are many other beautiful butterflies and unique caterpillars to study that are equally as exciting and interesting...*just ask the BugLady!*

(Linda Barber Auld, E-Mail: nolabuglady@gmail.com)

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Photo by Richard Lombardini, San Antonio River Walk (Arpil 2020)

TO CATCH A PREDATOR: OBSERVATIONS ON *LAETILIA CINEROSELLA* (PYRALIDAE: PHYCITINAE)

BY

JESSICA AWAD AND JAMES HAYDEN

Five species of *Laetilia* Ragonot are known to occur in Florida. *Laetilia coccidivora* (Comstock) is well-known as a predator of many species of scale insects in the families Coccidae and Dactylopiidae. *Laetilia myersella* Dyar is known to feed on *Toumeyella pini* (King), scales of pine trees (Neunzig 1997). The immature stages and life histories of the other three species are unknown. One of them, *Laetilia cinerosella* Neunzig (Fig. 1), is endemic to sandhill habitats in the Central and North-Central parts of peninsular Florida, including Ocala National Forest, Goethe State Forest, and Withlacoochee State Forest. In 2018, we had the opportunity to make some novel observations on this species.

We caught a gravid female *L. cinerosella* at mercury vapor light at the Withlacoochee State Forest Training Center (Childs Road, Brooksville, Hernando County, Florida) on May 15th, 2018. She began ovipositing on May 17th and laid 108 eggs over several days. The eggs darkened on May 22nd and hatched on May 25th. We offered the neonates several food options that were available in the environs of the McGuire Center in Gainesville: mealybug adults and egg masses (Pseudococcidae), three species of armored scales (Diaspididae), and two species of soft scales (Coccidae). Larvae were also provided with artificial diet (soy-wheat germ, BioServ). The neonates were very active and produced a lot of silk. Initially, they were placed on small colonies of various scales in a large petri dish, where they could wander among colonies. As they spun shelters, they were separated into vials. Unfortunately, most larvae died within a few days of hatching; six survived until May 28th. The female and some larvae were deposited in the Florida State Collection of Arthropods (Gainesville, FL).

Two larvae survived the longest on tuliptree or magnolia scale, *Toumeyella liriodendri* (Gmelin), until June 14th. Each caterpillar made a small silken nest next to the midrib of a severed leaf (Figs. 2–4). From the safety of this shelter, the caterpillars stuck their heads out to feed on nearby scale insects. Tuliptree scales are large and fleshy, and each caterpillar ate less than a quarter of a scale insect per day (Fig. 5). One of the larvae was moved onto a colony of *Coccus viridis* (Green) on ironweed (*Vernonia* sp.) (Fig. 6), where it survived for a week before succumbing to plant decay. Anyone hoping to control pests with *L. cinerosella* will be disappointed. They are weak, slow, and delicate predators.

For future attempts at rearing, one should use scale colonies on live plants. Wilting and decaying foliage had to be replaced, but the caterpillars did not successfully build new shelters when transferred to a fresh scale-infested leaf. In nature, we expect that each caterpillar stays in its shelter for a long time, perhaps through its entire development. The natural host is probably a soft scale that occurs on sandhill flora. *Toumeyella liriodendri* is common on Magnoliaceae throughout Florida, but *T. pini* is also a likely host, since pines dominate the Withlacoochee sandhills, and *L. myersella* has also been reared on it. Anyone who has easy access to scale-infested pine foliage should try to rear larvae through to adults.

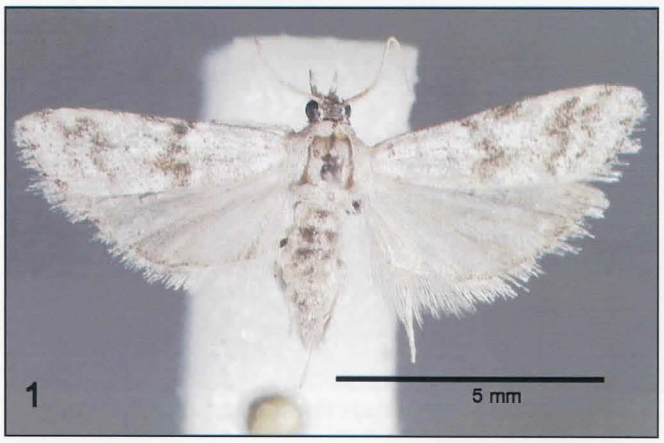

Fig. 1. *Laetilia cinerosella* (specimen caught in Goethe State Forest, N. Gasline Road, Levy Co., FL, September 3, 2011)

Fig. 2. Larva of *L. cinerosella* in shelter among *T. liriodendri* scales, photographed May 28, 2018.

Fig. 3. Larva on June 2nd.

Fig. 5. Caterpillar (c) and tuliptree scale (s) with large bitemark.

Fig. 4. Relatively intact shelter on tuliptree leaf.

Fig. 6. Larva among *C. viridis* scales on ironweed leaf, June 5th.

Acknowledgments

Thanks to Jeff Slotten, Charlie Covell, Julieta Brambila, and Paul Skelley for their comments. This note was supported by the Florida Department of Agriculture, Division of Plant Industry.

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OKEFENOKEE ZALE MOTH (*ZALE PERCULTA* FRANCLEMENT) (EREBIDAE): LIFE CYCLE NOTES AND NEWLY DISCOVERED POPULATIONS IN GEORGIA, USA

BY

LANCE A. DURDEN[1], DIRK J. STEVENSON[2], FRANKIE SNOW[3] AND JAMES K. ADAMS[4]

The Okefenokee zale (*Zale perculta*), the largest species in the erebid genus *Zale*, was described relatively recently (Franclement 1964). As its vernacular name indicates, it may be most common in the Okefenokee swamp region of southeastern Georgia and northeastern Florida (Schweitzer et al. 2011). Although it appears to be relatively common at two sites in northern Florida, in general this is a highly localized, rare moth with about 15 known populations in Georgia and Florida combined (Fig. 1) (Kutis and Heppner 1995, Heppner 2003. Schweitzer et al. 2011, Wagner et al. 2011). It has also been recorded from coastal South Carolina (Gaddy 2012). The Moth Photographers Group map for this species shows five records in extreme northern Florida and one in coastal South Carolina. Based on larval images, the Butterflies and Moths of North America (BAMONA) website documents specimens from Bay, Escambia, Leon, and Walton counties in northern Florida. Schweitzer et al. (2011) list the Okefenokee National Wildlife Refuge and Stephen Foster State Park (which is essentially surrounded by the Okefenokee National Wildlife Refuge) in Georgia as the best known localities for this moth. It has also been reported from Baker, Jefferson and Liberty Counties in northern Florida (Kutis and Heppner 1995, Kons and Borth 2006, Schweitzer et al. 2011). One of us (LAD) has seen *Z. perculta* larvae at the Waycross access point of Okefenokee National Wildlife Refuge in Ware County, Georgia. Schweitzer et al. (2011) list the NatureServe global rank of *Z. perculta* as G2 (Imperiled: at risk of extinction due to very restricted range, very few populations, steep declines, or other factors).

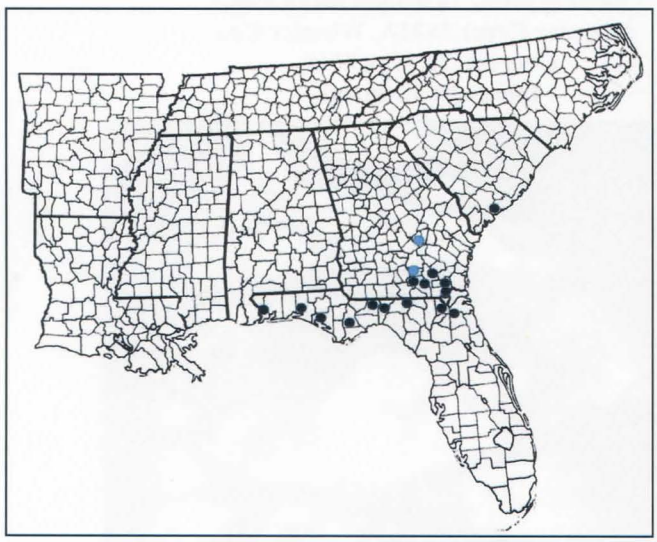

Fig. 1. Known geographical distribution of *Zale perculta*. Newly discovered colonies in Atkinson and Wheeler counties, Georgia are shown as blue dots. Data from Franclement (1964), Gaddy (2012), Kons and Borth (2006), Kutis and Heppner (1995), Schweitzer et al. (2011), BAMONA website, Moth Photographers Group website, and unpublished.

In April and May 2019, fairly large numbers of mid to late instar larvae of *Z. perculta* (Figs. 2-4) were found in

Fig. 2. *Zale perculta* larva on climbing fetterbush, Alligator Creek WMA, Wheeler Co., Georgia, 8 April 2019 (photo by D. J. Stevenson).

Fig. 3. *Zale perculta* larva, Alligator Creek WMA, Wheeler Co., Georgia, 2 May 2019 (photo by D. J. Stevenson).

Fig. 4. *Zale perculta* larvae on climbing fetterbush, Alligator Creek WMA, Wheeler Co., Georgia, 2 May 2019 (photo by F. Snow).

Fig. 6. Motionless (pre-pupation?) last instar *Zale perculta* larva on bark of pond cypress, *Taxodium ascendens*, Alligator Creek WMA, Wheeler Co., Georgia, 25 May 2019 (photo by F. Snow).

Fig. 5. Climbing fetterbush, *Pieris phyllyreifolia*, in flower, 7 April 2019 (photo by Joyce Klaus).

Fig. 7. Motionless (pre-pupation?) last instar *Zale perculta* larva on climbing fetterbush, Alligator Creek WMA, Wheeler Co., Georgia, 25 May 2019 (photo by F. Snow).

Alligator Creek Wildlife Management Area (ACWMA) in Wheeler County, Georgia, during zoological and botanical surveys funded by the Georgia Department of Natural Resources and conducted by DJS and FS (Stevenson 2019). The larvae were all feeding or crawling on climbing fetterbush, *Pieris phillyreifolia* (Hook) (Ericaceae) (Fig. 5), the only known larval foodplant for *Z. perculta* (Heppner 2003, Schweitzer et al. 2011, Wagner et al., 2011). One large colony was located in a depressional wetland of ~2 ha dominated by pond cypress, *Taxodium ascendens* Brongniart (Cupressaceae) with *P. phillyreifolia* growing as an ascending vine on its trunks. On 9 April 2019, six caterpillars were counted on *P. phillyreifolia* at this site, whereas 193 were counted at the same site on 2 May 2019, 175 on 11 May 2019, and 15 on 15 May.

However, on 25 May, only 2 caterpillars were observed, both motionless and not feeding, presumably in pre-pupation mode. One of these caterpillars was between furrows in pond cypress bark (Fig. 6) on the shady side of the tree, and the other one was on climbing fetterbush (Fig. 7). We did not find pupae in the field but it seems likely that at least some caterpillars pupate above ground, perhaps under bark or in bark furrows of pond cypresses as these wetlands are typically flooded for extended periods. Alternatively, some larvae could disperse to more xeric habitats prior to pupation in soil. The caterpillars of *Z. perculta* appear to be aposematically colored but no tests have been done to show whether or not they are actually protected by toxins or noxious properties, or by a mimetic relationship with a toxic/noxious species.

Climbing fetterbush also grows as a small, clonal rhizomatous shrub (Fig. 8), usually in ecotones located between xeric hammocks/sandhills and bay swamps at ACWMA. On 12 April 2019, 10 caterpillars of *Z. perculta* of various sizes including late instar specimens were observed on *P. phillyreifolia* growing in an oak hammock close to a seepage stream through a bay swamp community. Also on 12 April 2019, 49 caterpillars of various sizes including late instar individuals were observed on *P. phillyreifolia*, on the slope of an oak hammock at the ecotone of a seepage influenced bay swamp; one caterpillar was observed in similar habitat on 27 April 2019.

Eleven late instar larvae and climbing fetterbush sprigs were collected for rearing purposes from ACWMA in mid April 2019. The larvae fed voraciously (Fig. 9) and completely consumed the leaves of their foodplant before they were ready for pupation. Therefore, additional climbing fetterbush leaves were obtained from a cultivated (untreated with any chemicals) plant growing in the adjacent Georgia Southern University Botanic Garden in Statesboro, Georgia. Unfortunately, the caterpillars would not feed on leaves of this individual plant. Therefore, a few days later, climbing fetterbush sprigs were collected from the original ACWMA site and all caterpillars then resumed feeding. Only accepting foodplant from the habitat of origin would appear to be counter-productive as a survival strategy. Perhaps the larvae are primed to detect specific chemicals, likely from the soil, in foodplants from their native habitat. Between 13-29 May 2019, 10 of the fully-grown captive caterpillars burrowed into soil and constructed flimsy cocoons (Fig. 10). The remaining larva pupated on the soil surface on 11 May 2019 without constructing a cocoon (Fig. 11). All specimens were left undisturbed in or on the soil at their site of pupation in a screen cage inside an outdoor screen building in Statesboro, Georgia. The soil surface was sprayed every other day with distilled water and the cage was checked every day for hatching adult moths starting in January 2020.

Fig. 8. *Zale perculta* larvae on small, clonal rhizomatous shrub form of climbing fetterbush, Alligator Creek WMA, Wheeler Co., Georgia, 18 May 2019 (photo by D. J. Stevenson).

Fig. 9. *Zale perculta* larvae from Alligator Creek WMA, Wheeler Co., Georgia, in captivity, 5 May 2019 (photo by L. A. Durden).

Fig. 10. *Zale perculta* flimsy cocoons constructed by captive larvae from Alligator Creek WMA, Wheeler Co., Georgia, March 2020 (photo by L. A. Durden).

Fig. 11. *Zale perculta* pupa (and shed last instar larval exuvium) 1 day after pupal formation (the pupa gradually darkened over the next several days) from larva from Alligator Creek WMA, Wheeler Co., Georgia, 12 May 2019 (photo by L. A. Durden).

Three moths (two shown in Figs. 12, 13) hatched from the 11 larvae which reflects fairly high mortality during the pupal stage in captivity. The pupa on the soil surface (Fig 11) did not hatch and was slightly mis-shapen on the side next to the soil. Perhaps the ~3 days without feeding for the mature larvae negatively affected pupal survival. The three adult moths hatched on 19 Feb., 11 March and 15 March, respectively (1 male, 2 females). Captive mating of adult specimens was not attempted mainly because of the fairly long time spans between emergences. Schweitzer et al. (2011) state that adults of *Z. perculta* mainly occur in March but that, in some years, they can emerge as early as February or as late as April. The February and March dates agree with our small sample of captive-bred specimens from ACWMA. Kons and Borth (2006) report an adult specimen in good condition in northern Florida as late as 25 April 2005 (a year with delayed moth phenologies in that region).

Fig. 12. Adult *Zale perculta* resulting from caterpillar from Alligator Creek WMA, Wheeler Co., Georgia, 19 February 2020 (photo by L. A. Durden).

Fig. 13. Adult *Zale perculta* resulting from caterpillar from Alligator Creek WMA, Wheeler Co., Georgia, 11 March 2020 (photo by L. A. Durden).

On 13-14 March 2020, two of us (JKA and LAD) visited ACWMA to look for adult *Z. perculta* using bucket light traps. On the following night, 14-15 March 2020, JKA and Jeff Slotten set more bucket traps at ACWMA. Over the two nights, between 40-50 adult *Z. perculta* (Fig. 14) were recorded in the traps showing that this moth is abundant at this site. Climbing fetterbush was found in pond cypress habitats (some of which were flooded due to recent heavy rains) and also in adjacent, but more xeric, habitats. Traps set in all sites with adjacent climbing fetterbush produced adult *Z. perculta*. Additionally, all but one of the traps set in sandhill sites away from the cypress/fetterbush habitats also captured at least one specimen of *Z. perculta*, indicating the moth will disperse some distance from eclosion sites.

Another recently discovered population of *Z. perculta* was found in Atkinson County, Georgia on 11 April 2020 by DJS. More than 150 larvae (Fig. 15) were observed on climbing fetterbush growing on pond cypress and on hummocks in a hardwood·swamp about 13 km south of Pearson. From data compiled by the Georgia Department of Natural Resources Biotics program, the literature, and our own observations, we have mapped seven records or populations of *Z. perculta* for Georgia (Fig. 1).

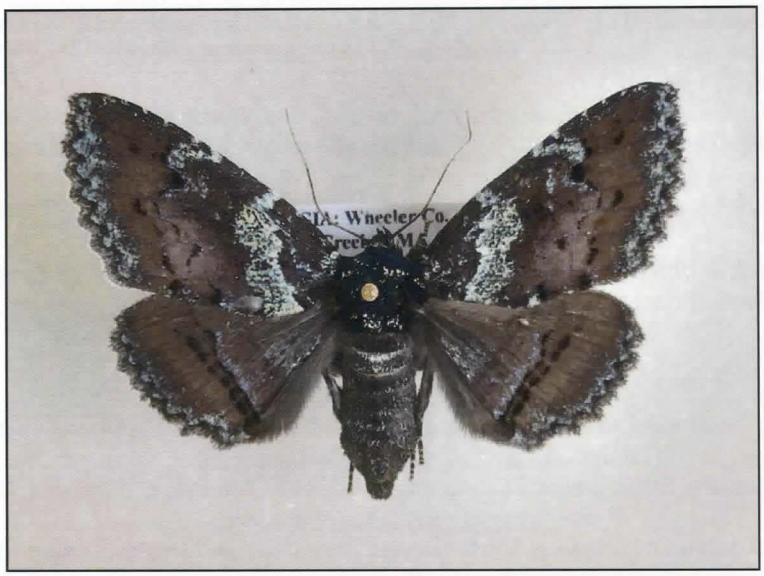

Fig. 14. Spread adult *Zale perculta* attracted to light at Alligator Creek Wildlife Management Area, 14-15 March 2020 (photo by J. K. Adams).

The records of *Z. perculta* from ACWMA and Atkinson County represent newly reported sites for this species and the furthest north for any colonies known in Georgia. This moth should be limited in its distribution

Fig. 15. *Zale perculta* larva from Atkinson county, Georgia on 11 April 2020 (photo by D. J. Stevenson).

by the presence of its larval foodplant but other factors may further limit its occurrence. The range of climbing fetterbush extends from coastal southern South Carolina south to southern Georgia and northern Florida and west to southern Alabama and southern Mississippi (Tucker 2009). Therefore, it is feasible that *Z. perculta* could occur as far west as southern Mississippi if other ecological conditions are favorable for its survival there. However, the main range of this moth is in southern Georgia and northern Florida in a small number of sites with climbing fetterbush usually in association with pond cypress or bald cypress [*Taxodium distichum* (L.) Rich.] (Schweitzer et al. 2011). Locating two new populations of this moth is therefore a significant finding.

Acknowledgments

We thank Shan Cammack and Allen Smith of the Georgia Department of Natural Resources for their support and assistance related to this study. We also thank Joyce Klaus (Terra-Ignea Enterprises, Culloden, Georgia) for allowing us to reproduce her image of *Pieris phillyreifolia*, and Jeff Slotten (Gainesville, Florida) for sharing moth trapping data from ACWMA.

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Figs. 1-3. Fresh male red-spotted purples (*Limenitis arthemis astyanax*) gathering to sip a sap flow on the trunk of a laurel oak (*Quercus laurifolia*), 19 April 2020, Withlacoochee State Forest, Citrus Co., Florida.

1, a group of seven.

2, two with outstretched wings.

3, an isolated individual.

This species is uncommon in central Florida, and it is very unusual to see so many together. A male tawny emperor (*Asterocampa clyton flora*) flew away before it could be photographed. Images by John V. Calhoun, taken during a social-distancing day hike (bretcal1@verizon.net).

A PARASITIC MITE LARVA (ACARI: ERYTHRAEIDAE) RECOVERED FROM *LYGROPIA FUSALIS* (HAMPSON) (LEPIDOPTERA: CRAMBIDAE)

BY

LAWRENCE J. HRIBAR

While I was examining bycatch from traps set for mosquito surveillance during mid-March 2020, I noticed a specimen of the small crambid moth *Lygropia fusalis* (Hampson). Immediately I noticed a small orange-colored structure underneath the right side wings (Figs. 1, 2). I was able to remove the thing and as I had suspected, it was a parasitic mite larva (Fig. 3). The specimen was cleared and mounted on a glass slide. Unfortunately the legs curled in the mounting medium. Nevertheless, the specimen was still sufficiently visible, and based on the shape of the mouthparts, setae, tarsi, and tarsal claws, I was able to assign it to Family Erythraeidae (Fig. 4). I suspect that it is a species in the genus *Leptus* Latrielle, 1795, but it could be a species of *Callidosoma* Womersley, 1936.

Fig. 1. Ventral side of moth with mite *in situ*.

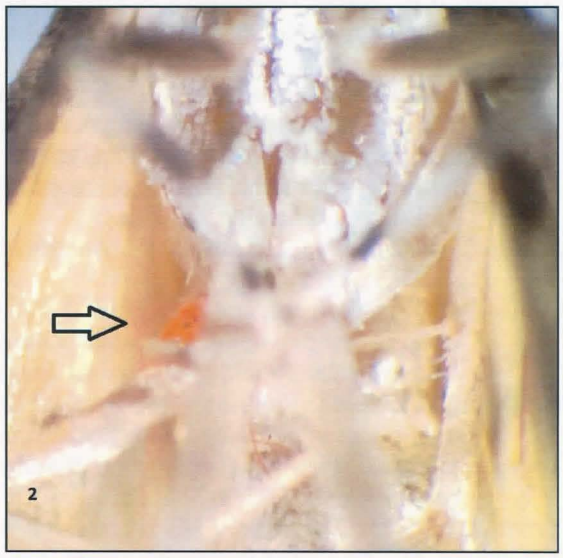

Fig. 2. Closer view of attached mite.

Haitlinger et al. (2020) review known hosts of *Leptus* in the New World. Twelve species and one other record identified to genus are known from lepidopteran hosts. Southcott (1992) revised the genus *Leptus* for North America and Europe; he listed eight species from North American lepidopterans, primarily Noctuidae. I could find no previous record for an erythraeid mite taken from *L. fusalis*. Sadly, I was unable to consult my copy of Treat's (1975) volume on mites recovered from moths and butterflies, as I lost it years ago during the storm surge after Hurricane Wilma. Southcott (1992) also stated that most *Leptus* species appear to be restricted to one host. This specimen may represent an undescribed species. As I wrote above, it is possible that this specimen is a species in the genus *Callidosoma*. Larvae of species in this genus also parasitize Lepidoptera (Sharma et al. 1983).

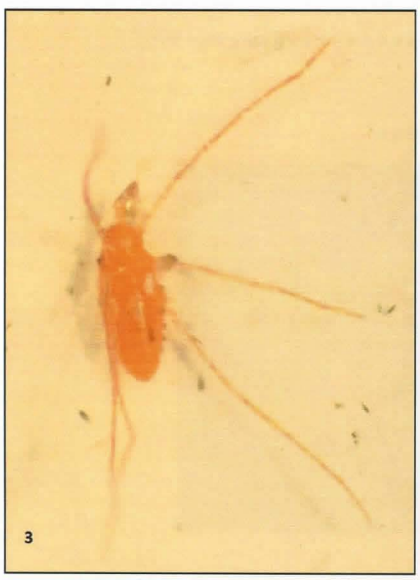

Fig. 3. Detached mite.

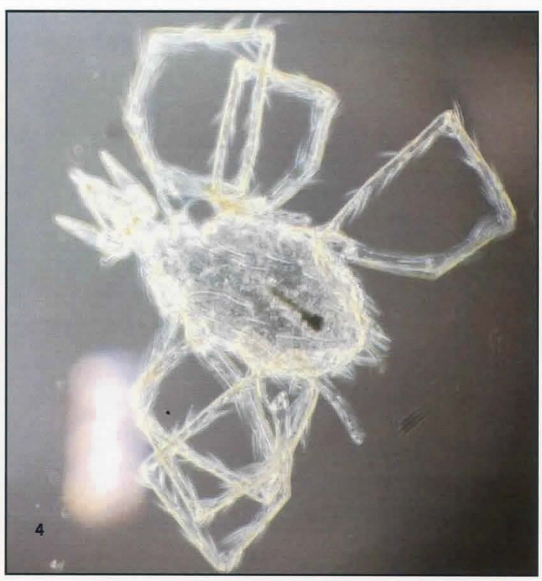

Fig. 4. Slide-mounted mite.

Lygropia fusalis is an attractive little yellow and brown moth. Hampson (1904) originally described it from specimens collected on Andros Island in the Bahamas. According to Scholtens and Solis (2015), Munroe (1995) was the first to report this species from the United States. In Florida it can be found from central Florida south to the Keys (Heppner 2003). It has also been reported from Cuba (Torre 1967) and St. Martin (Yokoyama 2013). The larval host may possibly be the black mangrove, *Avicennia germinans* (L.) L. (Heppner 2003).

The specimen of *L. fusalis* was collected on Long Key on the 18th of March 2020 (Fig. 5). This species was previously recorded from Long Key in 2007 (photograph on BugGuide.net https://bugguide.net/node/view/106259/bgpage). Other Florida Keys records are known from Key Largo, "Marathon" (presumably Vaca Key), Bahia Honda Key, Big Pine Key, and No Name Key as presented by Keysmoths (https://www.keysmoths.com/5251-1-lygropia-fusalis). According to the Keysmoths website, adults of this moth are in flight year-round.

Fig. 5. Lygropia fusalis **dorsal view.**

Both specimens are intended for deposit in an appropriate collection.

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(Lawrence J. Hribar, E-mail: lhribar@keysmosquito.org)

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Plumeria

Desert Rose

Some flowers from the Garden of Donna and Matthew Blaine (Melbourne, Florida, Spring 2020).

SPRING COLLECTING IN THE KERN RIVER CANYON, KERN COUNTY, CALIFORNIA

BY
KELLY RICHERS

Bakersfield California is in a unique position, situated in a bowl surrounded by three mountain ranges to the west, south and east. The eastern mountainous side is the southern end of the Sierra Nevada Range, or the Greenhorn Mountains, the southern side is the Transverse Range the includes Mount Pinos and much of the privately owned Tejon Ranch, and the western side is the Inner Coast Range, also known as the Temblor Range, which includes the Lost Hills area. Of these, the trip to the east of Bakersfield in the spring is always offering a number of interesting butterflies and a much larger number of species of moths during the months of February through May.

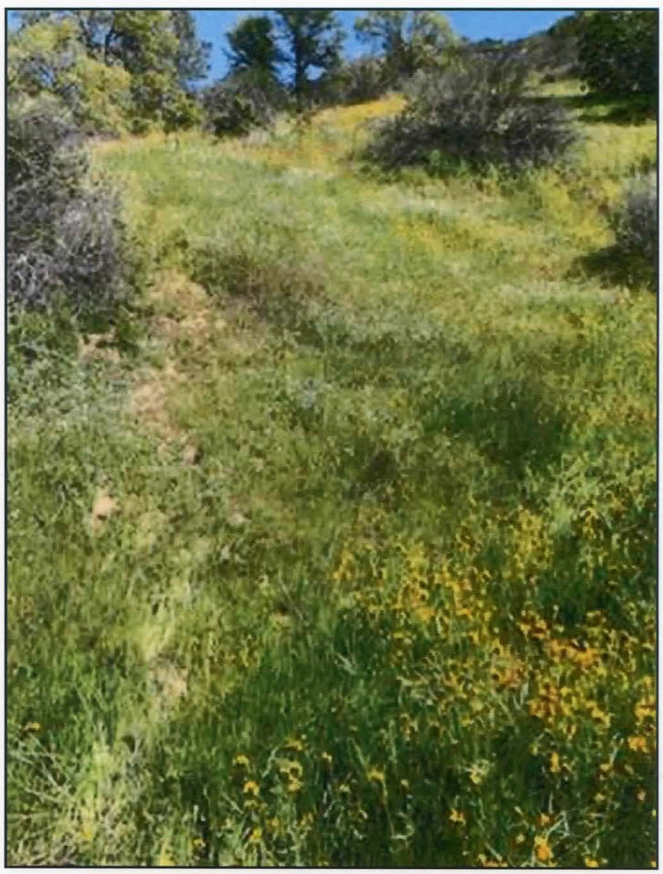
Yes, that is correct. For those who live where it is still freezing (such as the spring freeze the second week in May that is supposed to go all the way to Georgia) the Kern River Canyon is ready and waiting for you to explore as early as February, and pretty much finished due to heat and drought by the middle of May.

The Kern River Canyon is the recommended access to a relatively fast increase in elevation and different life zones toward the east. California State Route 178 from Bakersfield accesses this. Bakersfield lies at an elevation of about 325 feet. The Kern Canyon road rises to an elevation of 2500' at Lake Isabella, then one can go to over 6,000' if one diverges onto the road to Alta Sierra from Wofford Heights. However, since this greater elevation is usually still covered with snow until mid or late April, the early spring collecting takes place in the lower elevations from about 1000' elevation to 2300' elevation in selected areas.

The Kern River Canyon continues north past Lake Isabella for some distance, well into Tulare County, and Route 178 continues to the east over Walker Pass to the desert, but for the purposes of this article, the area considered is only from the entrance of the canyon to about halfway to Lake Isabella itself. Upper reaches of the Kern River Road beyond the lake have similar species, but about two weeks later in the season, generally.

Although there are small, steep meadow mountainsides at the lower levels of the canyon, probably the first decent stopping area is Richbar Campground. Prior to reaching this area, about two miles inside the canyon entrance is a steep meadow that is flowering in March and April that has many small dayflying moths for the patient observer or collector.

However, Richbar is generally more interesting. This is about five or so miles into the canyon, at two campgrounds, Lower Richbar and Upper Richbar-only about a flyfishing cast from each other. Neither actual campground, each beside the river, would be the collecting area. Across the road is a small canyon, with interesting characteristics. Richbar is interesting because it is a small biome or habitat type different from the surrounding steep hills. It does not freeze as easily as the surrounding hills, so there is collecting as early as February, and stays protected with more moisture later into the spring. A small seasonal creek flows into the Kern River from the south side of the road, forming the canyon. Hiking out of the canyon is not as productive, unless you count the dead cow I found one spring on a hillside.



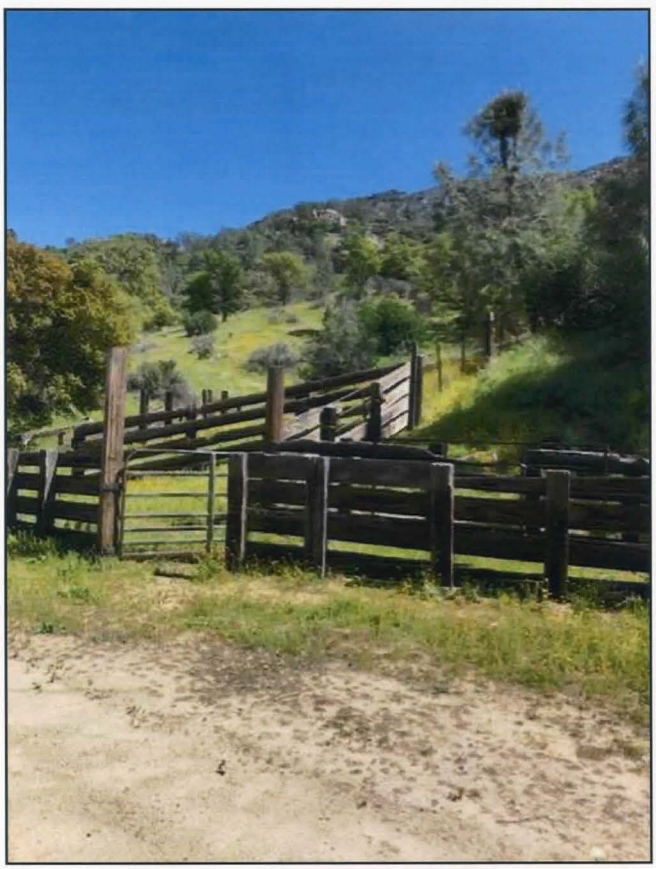
Kern River valley

One of the most attractive groups of species for the moth collector is the group in the genus *Annaphila*. These are relatively small day-flying moths with a somber forewing and sometimes startlingly bright underwings, either yellow, orange, white or red in color. Along the Kern River Canyon these can be found sparingly in a variety of locations, and more frequently in a very few

locations. Richbar is one of the locations where these are found, and the bushes along the seasonal creek contain several species. The accompanying list will show some of the species.

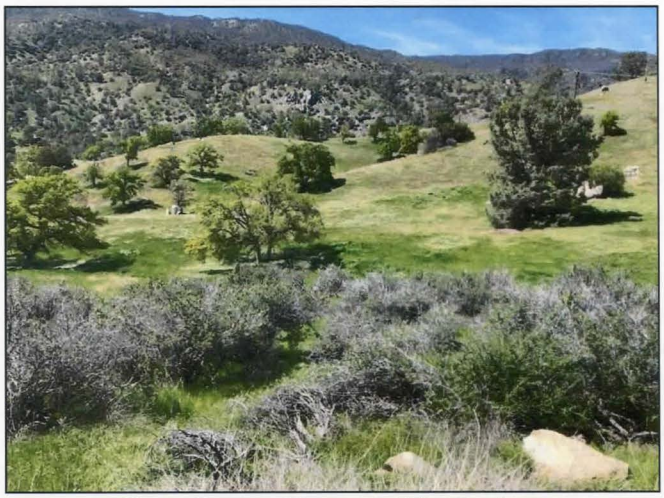
As early as February light traps may be set in the Richbar area with results. *Hydriomena albifasciata, Perizoma custodiata, Stamdodes coenonympha, Enchoria herbicolata, Sympistis behrensi, Orthodes noverca (delecta), Stretchia pacifica, Egira rubrica*, are all found from February through May in some abundance in the Richbar area. Not bad for an area only a few acres in size.

One of the locations where *Annaphila* species are much more abundant is known as the "horse corrals" and is located where FR 26568 meets CA Rt 178. The elevation is 2310'. After paralleling the Kern River for several miles beyond Richbar going east, the road climbs away from the river toward the access roads to Democrat Hot Springs. This is where the horse corrals are located, at a wide parking area near the highest part of the road.



Kern Canyon Horse Corrals

Walking to the south side of the road, it is all uphill beyond the actual corrals, which are not extensive in size. They are actually cattle corrals, but the cattle are rarely if ever seen in the area, apparently rounded up some time in the year. The area immediately above the corrals, however, has a trail that leads around the mountain side to the west, and is an invigorating and beautiful walk in the spring. Along this path may be found *Annaphila lithosina, danistica, mera mera, miona, depicta, decia, diva* and *spila* and *Axenus arvalis* in small colonies. In addition there may be found other seldom seen moths in the same area as shown in the accompanying list of moths.



Kern Canyon Democrat Hot Springs

The early season of March and April see changes in the species of *Annaphila* flying. Later in April and early May, *Alypia ridingsii* can be found on some of the flowering trees in the area. A devastating brush fire several years ago decimated the trees, but they are slowly recovering.

On the downhill side of the same area, there are many Ceanothus bushes, where *Annaphila* flit in and out and where your net can get shredded before you know it on the thorny bushes. Anywhere in the area, the black winged *Adela* species may be found. These are very small moths with incredibly long antennae, which are day fliers and may be missed easily. Differentiating species may also be an issue, but *punctiferella, thorpella, flammeusella, trigrapha*, and *eldorada* are all in the area. The little *Greya* species, at least three including *politella* are also present. The much larger *Gnophaela latipennis*, a beautiful arctiid moth, can be caught occasionally in May. In the meadows *Schinia pulchripenis* flies in April.

The larger area is also generally known as Democrat Hot Springs in the literature, but since there are two roads into that actual hot springs, it is difficult to see which one is referenced in older records. Records exist for *Quasisalebria occidentalis* but I have not personally caught one in the area. *Heliothis proruptus* has also reliably been caught there in March.

To give an idea of the diversity, even closer to the canyon mouth, the Yucca feeder, *Prodoxus marginatus* can be found in the Yucca blossoms in May.

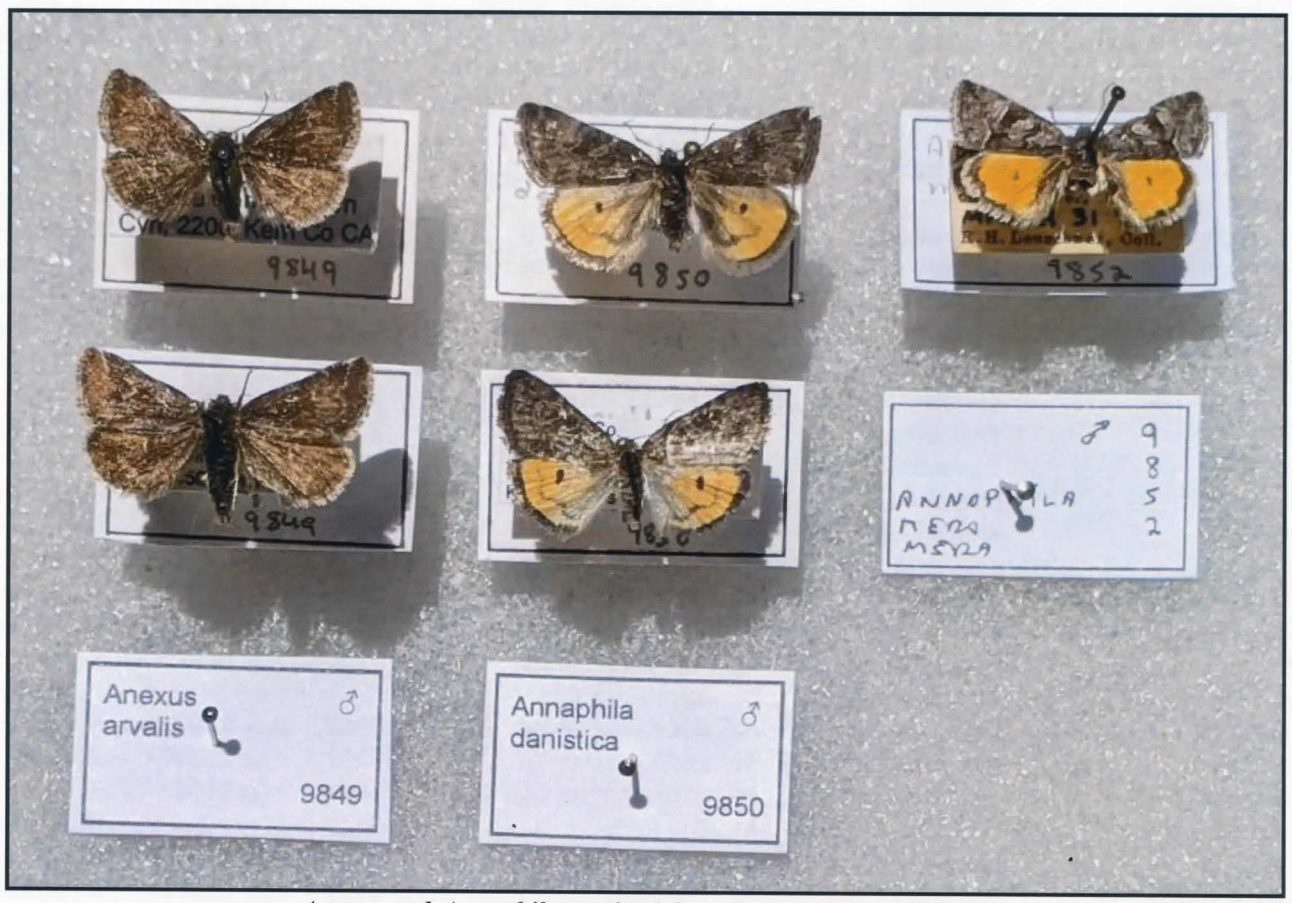
Grapholita conversana can be caught day or night, by sweeping the Horse Corrals area. *Pima granitella* is one of the more common micro moths that might be found also.

About two miles beyond the horse corrals going east the road widens into the four lane highway that comprises the second half of the canyon road to Lake Isabella. This part was installed by the Army Corps of Engineers, and is pretty nice for traffic purposes, but not so nice for places to park and collect or observe lepidoptera. However, just before the four lanes take effect, there is a turn to the south that is the Old Kern Canyon Road. If one takes this road about a hundred yards, there is dirt parking and an area that is worth exploring. This area is one that has moths throughout the year, and the early spring is no exception. Interesting blacklighting here produces many species, such as *Hydriomena albifasciata, Enchoria osculate, Anoncia noscres, Heliades lindae, Anadelosemia condigna, Pima occidentalis, Macaria guenearia, Stenoporpia anastomosaria, Pterotaea lamiaria tytthos, Aethaloida packardaria, Hydriomena edenata indistincta, Autographa pasiphaeia*, and the winter species *Lithophane contenta*, to name a few.

The butterfly collecting is spotty, however, due to the varying conditions that plague the area. As the day proceeds, all along the canyon the wind tends to increase, until conditions are not optimum by two or three o'clock for even trying to catch anything on the wing. Many of the species that can be caught here are actually more abundant and easier to catch north of Lake Isaballa, where more campgrounds abound as the road moves into Tulare County.

However, as the accompanying chart indicates, there are a few species that fly in the early spring. And, there are always things to look for. One of the sought after insects in this neck of the woods is the beautiful early spring butterfly , the Sonora Blue, *Philotes sonoernsis*. This is known to occur south of the canyon, and along the road in Tulare County, but has remained elusive in the Kern River Canyon itself. However, it is one of the most beautiful butterflies in existence, and one is always on the lookout for a small colony that should exist there.

With so much to look for and with great hikes and quiet areas, the Kern River Canyon is the perfect break from winter isolation and the current isolation for other reasons.



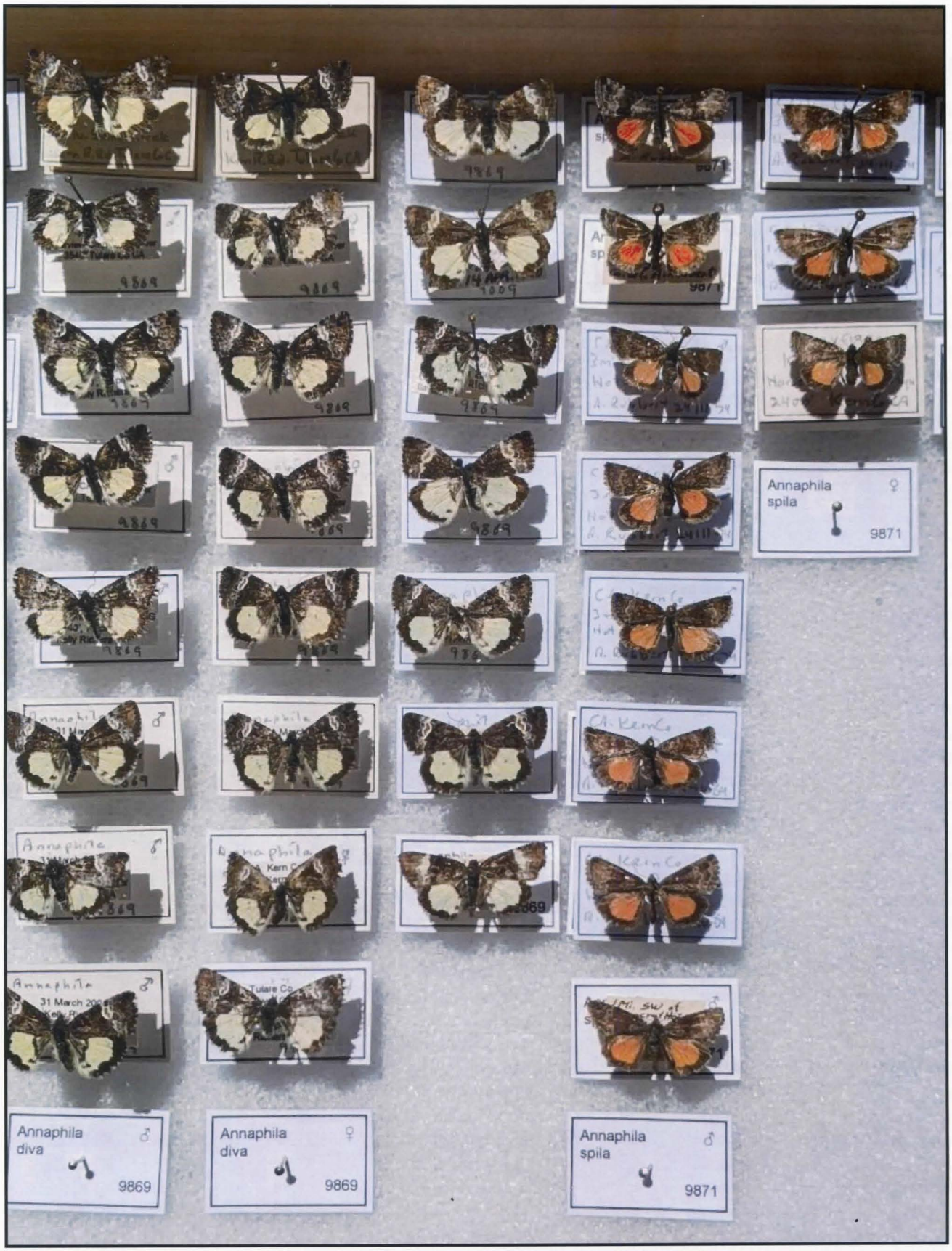
***Anexus* and *Annaphila* species (photo by Rosalinda Chairez)**

Table 1: Moths of the Lower Kern River Canyon, Kern County, California (Below the four lane Army Corps of Engineers improvements):

Genus	Species	Sex	Location	Elevation	Date	Collector
Acanthopteroctetes	unifascia		Along Kern River	2000'	Apr 22 78	R.H. Leuschner
Greya	obscuromaculata		Kern Cyn	2000'	Mar 29 90	R.H. Leuschner
Greya	obscura		Democrat Hot Springs	2200'	Apr 5 75	R.H. Leuschner
Greya	solenobiella		Democrat Hot Springs	2200'	Apr 22 78	R.H. Leuschner
Greya	politella		Kern River Cyn		Apr 15 84	R.H .Leuschner
Greya	powelli		Democrat Hot Springs	2200'	Mar 12 88	R.H. Leuschner
Tegeticula	maculata maculata	M	Kern River Cyn	1400'	May 24 98	K. Richers
Prodoxus	marginatus		Kern River Cyn	1400'	May 24 98	K. Richers
Prodoxus	aenescens		Kenn River Cyn	1400'	May 24 98	K. Richers
Adela	punctiferella		Kern River Cyn		Apr 7 74	R.H. Leuschner
Adela	thorpella		Kern River Cyn		Apr 22 78	R.H. Leuschner
Adela	flammeusella		Kern Cyn, 1 mi E entrance	1125'	Mar 25 2013	K. Richers
Amydria	onagella occidentella		Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers
Ethmia	scylla		Democrat Hot Springs		Mar 28 87	R.H. Leuschner
Ethmia	brevistriga aridicola		Kern River Cyn		Apr 7 74	R.H. Leuschner
Ethmia	albitogata		Kern Cyn Rd		Mar 31 2004	V. Albu
Ethmia	plagiobothrae		Richbar, Kern Cyn	1600'	Feb 10 96	K. Richers
Inga	ciliella		Old Kern Cyn Rd	2320'	Jun 24 2003	K. Richers
Elachista	symmorpha		Along Kern River	2000'	APr 17 77	R.H. Leuschner
Dicranoctetes	brachyelytrifoliella		Along Kern River	2200'	Mar 31 85	R.H. Leuschner
Coleophora	maritella		Democrat Hot Springs		Apr 24 52	G.J. Rozen
Anoncia	noscres		Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers
Aristotelia	eumeris		Along Kern River	2000'	Apr 22 78	R.H. Leuschner
Taygete	citrinella		Nr. Democrat Hot Springs	2500'	Jun 7 96	R.H. Leuschner
Givira	lotta		Old Kern Cyn Rd	2320'	Jun 21 90	K. Richers
Grapholita	caeruleana		Kern Cyn Rd		Mar 13 2004	V. Albu
Grapholita	conversana		Kern River Cyn	2000'	Apr 15 84	R.H.Leuschner
Sparganothis	senecionana	F	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Heliades	(lindae)		Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers
Jocara	trabalis	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Anadelosemia	condigna		Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers
Pima	occidentalis		Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers
Quasisalebria	occidentalis		Democrat Hot Springs	2500'	Jun 7 96	R.H. Leuschner
Phobus	funerellus	M	Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Phobus	curvatellus	M	Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Ephestia	kuehniella		Old Kern Cyn Rd	2350'	Apr 14 90	K. Richers
Speranza	semivolata	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Speranza	guenearia	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Digrammia	extenuata	M	Along Kern R	2000'	Apr 4 96	R.H. Leuschner
Digrammia	californiaria	M	Richbar, Kern Riv Cyn	1600'	Feb 13 99	K. Richers
Stenoporpia	anastomosaria	M	Old Kern Cyn Rd	2320'	Apr 14 91	K. Richers
Glaucina	macdunnoughi		Kern River Cyn		Jul 7 54	W.A. Rees
Glaucina	epiphysaria	M	Old Kern Cyn Rd	2320'	Apr 8 2007	K. Richers
Pterotaea	lamiaria tytthos	M	Old Kern Cyn Rd	2320'	Mar 22 2003	K. Richers
Pterotaea	campestraria	M	Richbar, Kern Cyn Rd	1600'	Mar 21 98	K. Richers
Pterotaea	cariosa aporema	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Iridopsis	clivinaria impia	F	Old Kern Cyn Rd	2320'	Apr 8 2007	K. Richers
Anavitrinelia	ocularia	M	Old Kern Cyn Rd	2320'	Apr 8 2007	K. Richers
Phigalia	plumogeraria	M	Richbar, Kern Riv Cyn	1600'	Feb 6 2000	K. Richers
Sericosema	juturnaria	M	Horse Corrals, Kern Cyn	2000'	May 14 94	K. Richers
Sericosema	immaculata	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Sericosema	wilsonensis	M	Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers

Table 1 continuing: Moths of the Lower Kern River Canyon, Kern County, California (Below the four lane Army Corps of Engineers improvements):

Genus	Species	Sex	Location	Elevation	Date	Collector
Eudrespanelatri	rectifascia	F	Old Kern Cyn Rd	2320'	Apr 8 2007	K. Richers
Drepanulatrix	unicalcararia	M	Old Kern Cyn Rd	2320'	Apr 30 2005	K. Richers
Drepanulatrix	hulstii hulstii	M	Old Kern Cyn Rd	2320'	Apr 14 91	K. Richers
Drepanulatrix	foeminaria	F	Old Kern Cyn Rd	2350'	Apr 14 90	K. Richers
Drepanulatrix	foeminaria	F	Old Kern Cyn Rd	2350'	Apr 14 90	K. Richers
Drepanulatrix	falcataria	M	Richbar cmpgrnd	1600'	Jan 26 85	K. Richers
Drepanulatrix	monicaria	M	Old Kern Cyn Rd	2320'	May 19 97	K. Richers
Pero	radiosaria	M	Richbar, Kern River Cyn	1600'	Feb 13 99	K. Richers
Aethaloida	packardia	M	Old Kern Cyn Rd	2320'	Apr 14 91	K. Richers
Chlorosea	banksaria banksaria	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Nemoria	darwinata punctularia	F	Old Kern Cyn Rd	2400'	May 23 87	K. Richers
Scopula	sideraria		Old Kern Cyn Rd	2350'	Apr 14 90	K. Richers
Dysstroma	mancipata hulstata	F	Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Hydriomena	edenata indistincta	M	Richbar, Kern River Cyn	1600'	Feb 13 99	K. Richers
Hydriomena	albifasciata albifasciata		Richbar, Kern River Cyn	1600'	Feb 13 99	K. Richers
Hydriomena	nubilofasciata	F	Horse Corrals, Kern Cyn	2300'	Feb 17 96	K. Richers
Triphosa	californiata		Old Kern Cyn Rd	2320'	Apr 14 90	K. Richers
Archirhoe	neomexicana		Old Kern Cyn Rd	2350'	Apr 14 90	K. Richers
Perizoma	oxygramma	M	Richbar, Kern Cyn	1600'	Mar 21 98	K. Richers
Perizoma	custodiata		Richbar, Kern Cyn	1600'	Feb 23 85	K. Richers
Stamnodes	coenonymphata		Richbar, Kern Cyn	1600'	Jan 26 85	K. Richers
Epirrhoe	plebeculata		Richbar, Kern Cyn	1600'	Feb 10 91	K. Richers
Enchoria	osculata		Horse Corrals, Kern Cyn	2270'	Apr 13 2009	K. Richers
Enchoria	herbicolata		Richbar, Kern Cyn	1600'	Feb 10 91	K. Richers
Zenophleps	ignicolorata		Richbar, Kern Cyn	1600'	Mar 21 98	K. Richers
Venusia	pearsalli		Kern River Cyn	2200'	Mar 13 63	C. Henne coll.
Eupithecia	macdunnoughi		Richbar, Kern Cyn	1600'	Mar 9 85	K. Richers
Eupithecia	zelmir	M	Richbar Cmpgrnd,	1600'	Feb 6 2000	
Eupithecia	johnstoni		Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Eupithecia	subapicata		Richbar Cmpgrnd,	1600'	Feb 6 2000	K. Richers
Eupithecia	shirleyata		Old Kern Cyn Rd at Rt 178	2350'	Apr 14 90	K. Richers
Eupithecia	nevadata nevadata	M	Old Kern Cyn Rd at Rt 178	2350'	Apr 14 90	K. Richers
Tolype	distincta	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Malacosoma	constrictum	F	Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Sphinx	perelegens	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Arctonotus	lucidus	M	Richbar, Kern River Cyn	1600'	Feb 13 99	K. Richers
Furcula	cinerea cinereoides	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Schizura	unicornis conspecta		Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers
Gnophaela	latipennis		Kern River Cyn	2300'	May 23 2000	J. Levy
Leptarctia	californiae		Horse corrals, Kern R Cyn	2400'	May 18 2000	K. Richers
Grammia	ornata	M	Old Kern Cyn Rd	2320'	Mar 2 2003	K. Richers
Orgyia	cana	M	Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Hypena	humuli		Horse Corrals, Kern Cyn	2200'	Mar 5 94	K. Richers
Hemeroplanis	finitima	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Drasteria	ochracea		Old Kern Cyn Rd	2350'	Apr 14 90	K. Richers
Drasteria	edwardsi		Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Drasteria	divergens	M	Old Kern Cyn Rd	2320'	Apr 14 91	K. Richers
Zale	termina		Old Kern Cyn Rd	2320'	Apr 8 2007	K. Richers
Autographa	californica	M	Lower Richbar, Kern Cyn	1600'	Apr 27 85	K. Richers
Autographa	pasiphaeia		Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers
Meganola	minuscula eucalyptula		Richbar, Kern River Cyn	160'	Mar 21 98	K. Richers
Acronicta	marmorata		Old Kern Cyn Rd	2350'	Apr 14 90	K. Richers
Alypia	mariposa		Rt 178, Kern Cyn, mi 55	2220'	May 1 92	K. Richers



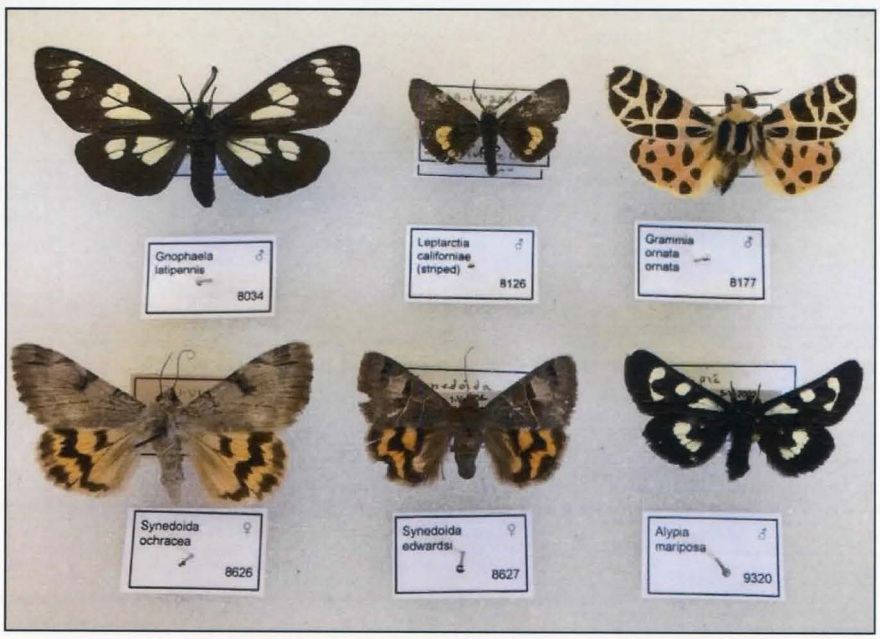
***Annaphila* species, *diva* and *spila* (photo by Rosalinda Chairez)**

Annaphila decia **(photo by Rosalinda Chairez)**

Table 1 continuing: Moths of the Lower Kern River Canyon, Kern County, California (Below the four lane Army Corps of Engineers improvements):

Genus	Species	Sex	Location	Elevation	Date	Collector
Apamea	cinefacta	M	Old Kern Cyn Rd	2320'	Apr 14 90	K. Richers
Aseptis	marina		Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Oligia	violacea violacea		Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Aseptis	paviae	M	Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Aseptis	pausis		Old Kern Cyn Rd	2320'	Apr 8 2007	K. Richers
Pseudobryomima	fallax	M	Richbar, Kern River Cyn	1600'	Feb 11 99	K. Richers
Draudtia	lunata		Old Kern Cyn Rd	2320'	Apr 14 90	K. Richers
Zotheca	tranquilla	F	Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Axenus	arvalis		Kern Cyn Rd, mi 55	2220'	Apr 23 93	K. Richers
Annaphila	danistica		Horse Corrals, Kern Cyn	2270'	Apr 13 2009	K. Richers
Annaphila	mera mera		Democrat Hot Springs	2100'	Mar 31 62	R.H. Leuschner
Annaphila	abdita (ssp?)		Richbar Cmp, Kern Cyn	1600'	Feb 23 85	K. Richers
Annaphila	vivianae		Richbar Cmp, Kern Cyn	1600'	Feb 23 85	K. Richers
Annaphila	lithosina		2 mi inside Kern R Cyn	1450'	Mar 10 2002	K. Richers
Annaphila	depicta depicta	F	Kern River Cyn		Apr 7 74	R.H. Leuschner
Annaphila	decia	M	Horse Corrals, Kern Cyn	2400'	Mar 26 2002	K. Richers
Annaphila	diva		Democrat Hot Springs	2200'	Mar 24 79	R.H. Leuschner
Annaphila	spila		Horse Corrals, Kern Cyn	2400'	Apr 18 98	K. Richers
Homoglaea	carbonaria		Richbar, Kern River Cyn	1600'	Feb 6 2000	K. Richers
Lithophane	contenta		Old Kern Cyn Rd	2350'	Apr 14 90	K. Richers
Feralia	februalis	M	Old Kern Cyn Rd	2320'	Mar 22 2003	K. Richers
Sympistis	wilsonensis		Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers
Sympistis	behrensi		Richbar, Kern Riv Cyn	1600'	Feb 13 99	K. Richers
Anarta	fusculenta		Old Kern Cyn Rd	2320'	Apr 14 91	K. Richers
Admetovis	similaris	M	Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers
Orthodes	noverca (delecta)		Richbar, Kern Riv Cyn	1600'	Mar 21 98	K. Richers
Polia	delecta	F	Richbar, Kern Riv Cyn	1600'	Mar 21 98	K. Richers
Lacinipolia	illaudabilis	M	Old Kern Cyn Rd	2320'	May 22 93	K. Richers
Dargida	procinta	M	Old Kern Cyn Rd	2320'	Mar 22 2003	K. Richers
Perigonica	angulata	F	Old Kern Cyn Rd	2350'	Apr 14 90	K. Richers
Stretchia	pacifica		Richbar, Kern Riv Cyn	1600'	Feb 13 99	K. Richers
Orthosia	hibisci	M	Old Kern Cyn Rd	2320'	Mar 22 2003	K. Richers
Egira	hiemalis	M	Richbar, Kern Riv Cyn	1600'	Feb 13 99	K. Richers
Egira	curialis	M	Richbar, Kern Riv Cyn	1600'	Mar 21 98	K. Richers
Egira	rubrica	F	Richbar, Kern Riv Cyn	1600'	Mar 21 98	K. Richers
Egira	perlubens	M	Old Kern Cyn Rd	2320'	Apr 14 91	K. Richers
Agrotis	subterranea	F	Richbar, Kern Riv Cyn	1600'	Mar 21 98	K. Richers
Euxoa	austrina	F	Old Kern Cyn Rd	2320'	Apr 14 91	K. Richers
Euxoa	rufula basiflava	M	Old Kern Cyn Rd	2400'	May 22 93	K. Richers
Euxoa	comosa lutulenta	F	Old Kern Cyn Rd	2320'	Mar 22 2003	K. Richers
Euxoa	brunneigera	F	Old Kern Cyn Rd	2320'	Apr 19 97	K. Richers
Euxoa	satis	M	Old Kern Cyn Rd	2320'	Apr 30 05	K. Richers
Euxoa	nostra	F	Old Kern Cyn Rd	2320'	Apr 8 2007	K. Richers
Noctua	pronuba	M	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Parabagrotis	exertistigma	F	Old Kern Cyn Rd	2320'	May 1 2004	K. Richers
Heliothodes	diminutivus		2 mi inside Kern Cyn	1450'	Mar 10 2002	K. Richers
Heliothis	proruptus		1 mi SW Democrat Hot Springs		Mar 24 74	A. Rubbert
Schinia	pulchripennis	F	Horse Corrals, Kern Cyn	2400'	Apr 18 98	K. Richers

Various *Annaphila* species (photo by Rosalinda Chairez)

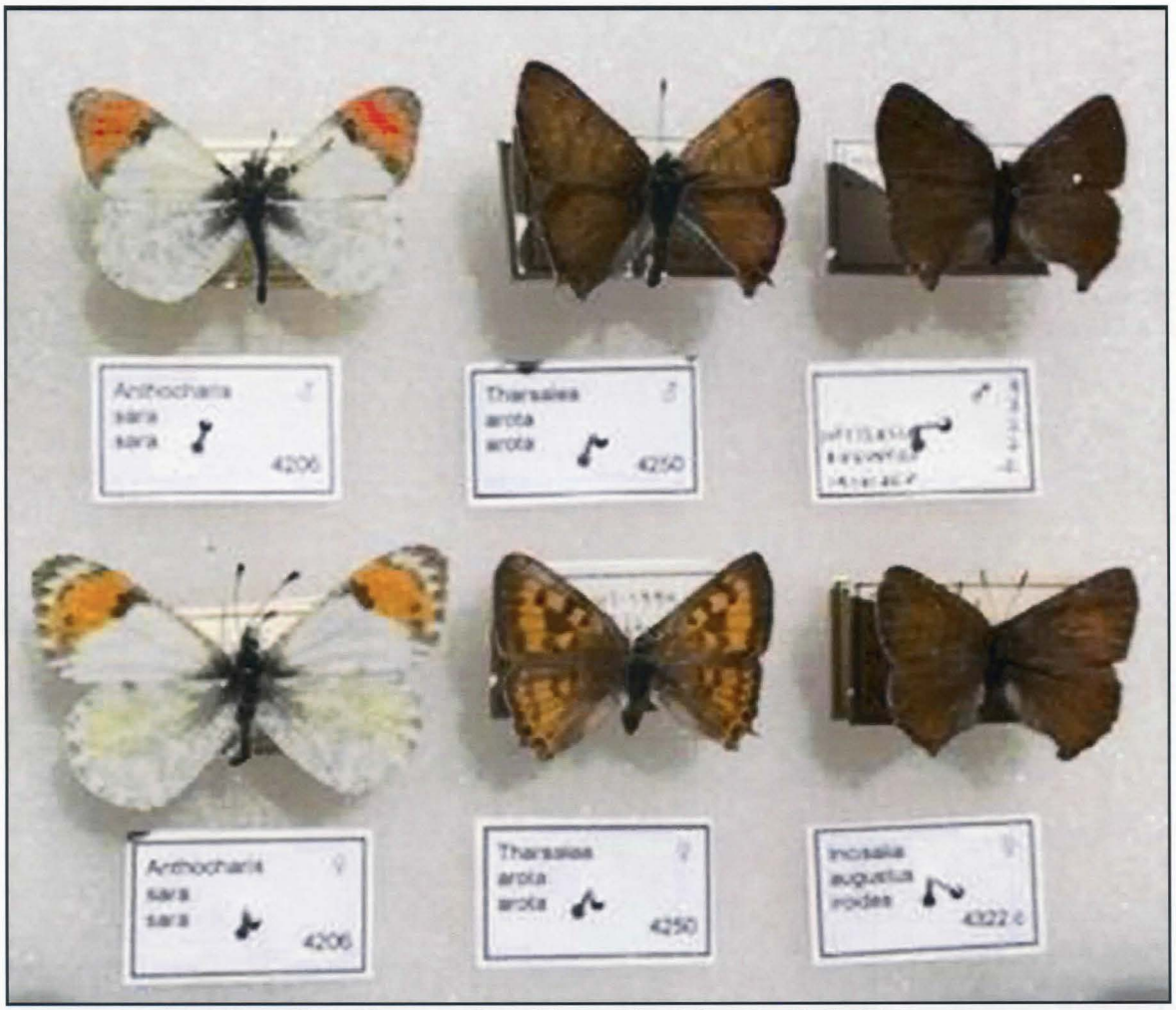


Kern River Canyon selected noctuids (photo by Kelly Richers)

Butterflies

Table 2: Butterflies of the Lower Kern River Canyon, Kern County, California (Below the four lane Army Corps of Engineers improvements):

Genus	Species	Sex	Location	Elevation	Date	Collector
Erynnis	brizo lacustra	F	Horse Corrals, Kern Cyn	2350'	Apr 13 2009	K. Richers
Anthocharis	sara sara	F	Richbar Campground	1600'	Apr 23 93	K. Richers
Tharsalea	arota arota	M	Kern River Cyn	2000'	May 12 84	K. Richers
Incisalia	augustus iriodes	M	1/2 mi S Richbar		Mar 23 90	K. Richers
Icaricia	acmon acmon	M	Kern Riv Cyn	2000'	May 12 84	K. Richers
Icaricia	lupini monticola	F	Kern Riv Cyn	2000'	May 12 84	K. Richers
Nymphalis	antiopa	M	Richbar Cmpgrnd	1600'	Jan 26 85	K. Richers
Vanessa	cardui	M	Horse Corrals, Kern Cyn	2200'	Mar 23 2003	K. Richers
Vanessa	atalanta	M	Kern Cyn Rd	1200'	Mar 18 84	K. Richers



Kern River Canyon selected butterflies (photo by Kelly Richers)

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

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River Walk, San Antonio, TX (photo by Richard Lombardini, May 13, 2020).

LACTURA SUBFERVENS IN NW LOUISIANA

BY
ROYAL TYLER

Introduction

This paper is a basic documentation of the occurrence and identifying characteristics of *Lactura subfervens* in Northwest Louisiana. This species has some easily identifiable characteristics which separate it from other *Lactura* species occurring in surrounding regions, but no other species of *Lactura* has been found in this region to date.

Materials and Methods

Adult specimens were collected and photographed near UV and standard porch lights, with occasional setups of Mercury vapor lights. All specimens were recorded on iNaturalist with GPS location data, digital photographs, and time and date stamps taken from photographs. Larvae were collected on the host plant and similarly recorded.

The study site is The Royal Hills farm, a 153 acre tree farm located in Caddo Parish, Louisiana. This is the NW corner of the state, not far south of Texarkana, AR. It is approximately 120 acres of upland shortleaf pine (*Pinus echinata*) and loblolly pine (*Pinus taeda*) ecosystems, with about 25 acres of creek bottoms of hardwoods and cypress. Soils are predominately sandy to sandy loam. There is an approximately 5 acre homesite which contains upland hardwood species in addition to the native pines.

The host plant Genus for *Lactura* has been widely reported as being *Sideroxylon*. *Sideroxylon lanuginosa* (also called Gum Bumelia or Wooly Buckthorn) occurs on the homesite of the study site, and was the species larvae were seen and collected from.

Taxonomy/Identification

Lacturidae (Tropical Burnet Moths) include 6 species of moths in North America according to All-Leps (http://lepbarcoding.org/northamerica/species_checklists.php). *Lactura* was treated in the Yponomeutidae by Nye & Fletcher, 1991, 6 : 165. *Lactura* Walker, 1854 has subsequently been designated as the type-genus for the new family - Lacturidae within the Zygaenoidea, by Heppner, 1995. There has been a lot of confusion until recent years on how to distinguish these species. According to Matson and Wagner (2017), "Much of the confusion traces to concepts of *L. subfervens*, a highly variable taxon whose phenotypes overlap with those of *L. basistriga, L. rubritegula, L. psammitis* (Zeller, 1872). Of the 52 specimens of *L. subfervens* and in BOLD, 65% of these appear to be misidentified." Since the publication of their paper three years ago, and a revision to the genus being published in 2019 by Matson, et al., much of the misidentifications in online resources appear to have been cleared up,

After the recent revision to the genus, the six species are listed as *L. subfervens* (Walker, 1854), *L. basistriga* (Barnes and McDunnough, 1913), *L. rubritegula* (Matson and Wagner, 2017), *Lactura pupula* (Hübner, 1831), *L. rhodocentra* (Meyrick, 1913), and L. nalli (Matson et al, 2019). There was also a subspecies added recently, Lactura subfervens *sapeloensis* ssp. from Florida and coastal Georgia (Matson et al 2019).

Description adults

Lactura subfervens have a forewing length from 9-13 mm. Adults can be easily distinguished by the presence of scattered smoky red scales (although highly variable in density) over the forewing. The forewing lacks

***Lactura subfervens* [photos by Royal Tyler taken at Royal Hills Farm, Caddo Parish, LA, on June 25, 2019 (upper photo) and on February 18, 2020 (lower photo)].**

the basal subcostal red or black dash usually present in *L. atrolinea, L. basistriga*, and *L. nalli*. This reference to the flecking of reddish scales being present on *L. subfervens* now seems to be a consensus among all sources read by the author.

Lactura subfervens **(view of abdomen and hindwings, May 15).**

When viewing adult *Lactura* specimens collected in NW Louisiana, the prominent speckling and the presence of a reddish fringe are easy field identifiers. Pinning and mounting specimens to view the hindwings does not appear to be necessary to identify *Lactura subfervens*. The hindwings are variable in color from a solid orangish, reddish, or pinkish color and they are similar to other members of this genus previously mentioned as similar in appearance. The forewings contain the distinguishing features to observe.

Description late instar larvae

Lactura subfervens **larva (photo by Royal Tyler) taken on April 11, 2020).**

In the revision of North America *Lactura* (Matson, et al 2019) the six species of *Lactura* were described as having distinct larval phenotypes. Late instar larvae of *L. subfervens* are a base color of lime green to yellow. They have distinctive white stripes from top to bottom on the lateral view, and several rows of yellow warts connected by white stripes. The other *Lactura* larvae

Lactura subfervens **larva (photo by Royal Tyler) taken on April 11, 2020).**

have darker colors across the dorsum visible from the dorsal and lateral views, whereas *L. subfervens* has white stripes and a green base on the dorsum. The only other *Lactura* with larvae similar in appearance to *L. subfervens* appears to be *L. nalli*, which instead appears

Lactura subfervens **larvae (photos by Royal Tyler taken on April 14, 2020). Top photo for size perspective of larvae feeding on the Sideroxylon leaf. The small size and good camouflage make them difficult to see.**

to have a semitransparent green dorsum rather than the repeating white stripes of *L. subfervens*. Larval specimens have been difficult to find so far on the study site, possibly due to the large size of the trees. The main tree near the collection lights is 50+ feet tall. Five

specimens were collected in April 2020 on the lower limbs and on sprouts (or seedlings) coming up near the large parent tree.

Occurrences

On the study site this species is occurring primarily from February thru June, with one occurrence on July 5 (2019) noted. March is by far the heaviest month. There are frequently multiple specimens at the lights, even on small lights such as porch lights, so no attempt was made to calculate total quantities seen. As of the writing of this in May 2020, the adult moth has been recorded on 42 different dates including 9 days during 2014, and 33 days during 2018 though spring of 2020, of randomized recording and photographing. It is very common in our climate to have multiple nights of cold weather during February and March in which few moths are out flying and thus sampling is often spotty. These dates of occurrence match those of other published sites. Larvae were collected and recorded on April 11, 2020 and April 14, 2020.

This area appears to have at least two generations per year. In 2020 lights have been monitored every night. There is obviously an early generation that began in mid-February, peaked in March and sightings ended April 9. Beginning in mid-April larvae were found for about a week, followed by another emergence of adults seen beginning May 14.

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Matson T, Wagner DL, 2017. A New Cryptic Lactura from Texas (Lepidoptera, Zygaenoidea, Lacturidae). *ZooKeys* 711: 141-150. https://doi.org/10.3897/zookeys.711.17766

Matson TA, Wagner DL, Miller SE, 2019. A Revision of North American Lactura (Lepidoptera, Zygaenoidea, Lacturidae). ZooKeys 846: 75-116. https://doi.org/10.3897/zookeys.846.31953

Nye, IWB, and DS Fletcher, 1991. *The Generic Names of Moths of the World.* Volume 6 : 165. Micro-lepidoptera. London: Nat. Hist. Mus.

Walker F, 1854. List of the specimens of lepidopterous insects in the collection of the British Museum. British Museum (Natural History). *Department of Zoology* 2: 527–528.

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Diamondback water snake (*Nerodia rhombifer*)
San Antonia on the River Walk, March 2020 (photo Richard Lombardini)

SOME MOTHS AND BUTTERFLIES AT LAKE JACKSON, BRAZORIA COUNTY, TEXAS

BY
MONICA KRANCEVIC

Unexpected but welcome:

Fig. 1. *Salobrena vacuana*, female, 8mm fwl, 15-Feb-2020 (Males have the expanded "shoulder patches" typical of the genus)

Fig. 2. *Goniocarsia electrica*, 19mm fwl, 17-Apr-2020 (Variable; this has sedate maculation compared to some from Costa Rica, but all have the pinkish tinge on wing fringes)

East Meets West: The joys of living in a zone contact area:

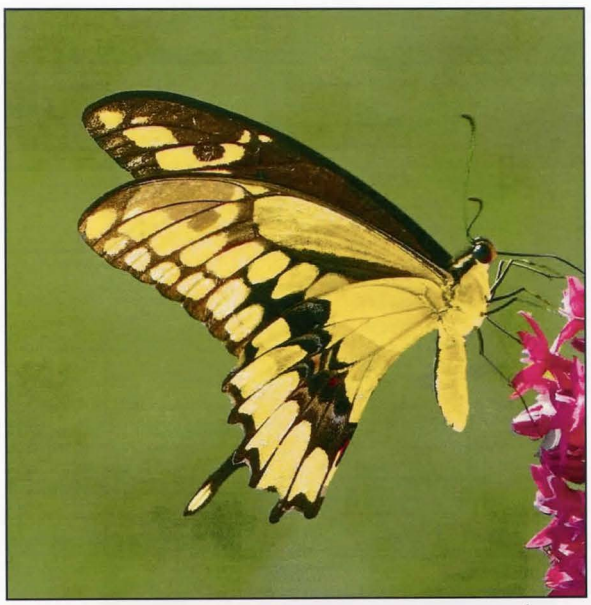

Fig. 3. *Papilio rumiko*, Western Giant Swallowtail

Fig. 4. *Papilio cresphontes*, Eastern Giant Swallowtail

THE LIFE HISTORY OF *LACINIPOLIA LAUDABILIS* — LAUDABLE ARCHES

BY
G. DARRYL WILLIS & MARK B. WILLIS

I was recently asked to work out the life history of *Lacinipolia laudabilis* by a colleague who is describing a new species of *Lacinipolia* near *laudabilis* in North Carolina. This species description is currently unpublished.

There are 9 species of *Lacinipolia* that occur in North Carolina: *Lacinipolia meditata, Lacinipolia anguina, Lacinipolia teligera, Lacinipolia renigera, Lacinipolia lorea, Lacinipolia olivacea, Lacinipolia laudabilis, Lacinipolia explicata,* and *Lacinipolia implicata*. Four species (*L. anguina, L. teligera, L. lorea*, and *L. olivacea*) reach their southern range limits in the mountains of North Carolina and the mountains of the nearby states of Georgia and Tennessee. The remaining five species (*L. meditata, L. renigera, L. laudabilis, L. explicata*, and *L. implicata*) are generally distributed throughout North Carolina (1).

Fig. 1. Adult Female *Lacinpolia laudabilis* (September 26, 2015), Concord Cabarrus, Co. , NC.

Of the five generally distributed species in North Carolina, *L. meditata is* rare in my area (Concord, Cabarrus Co.), *L. renigera, L. laudabilis and* and *L. explicata* are common and *L. implicata* is uncommon. All of these species appear to be double brooded with a spring and summer brood. Spring flights of the North Carolina species of this genus fly from April to July depending on the species. The summer brood of these species fly from August to November (1).

A method of obtaining *Acronicta* and *Lacinipolia* ova was developed by the senior author to provide larvae for life history research on these genera. It consists of confining females in a clear plastic drinking cup (6 -10 oz.) with an 1 inch wide paper or paper towel strip in the cup for the female to rest upon. The top was sealed with plastic wrap (non-cling) and a rubber band. The container was maintained between 60 – 80 degrees in normal light cycles. The females were fed sugar water every day or every other day depending on their condition (older females were fed more often). The ova of several *Acronicta* species, *Lacinipolia laudabilis*, and *L. implicata* were obtained using this method.

Fig. 2. First instar *Lacinolia laudabilis* - 5 mm (June 15, 2019)

Two separate broods of the summer brood of *Lacinipolia laudabilis* were reared in 2016 and 2019. The second rearing was done to confirm the data obtained from the initial rearing. My son, Mark B. Willis, was of immeasurable assistance in rearing both broods since the senior author's travel schedule prevented him managing these rearings full time. The initial rearing in 2016 started in early May with a female collected on May 4, 2016, in Concord, Cabarrus Co, NC. Over the next 5 days approximately 100 ova were oviposited. The first instar ova were split into two batches. Half to the junior author and half to the senior author. The larva hatched in 5-7 days and were fed dandelion and clover. The larva were very small (3-5 mm), secretive, and immediately rolled into a "C" shape when disturbed. They fed on dead and dying leaves of both dandelion and clover. The larvae hid in and on the dead foliage and were difficult to locate or observe. The larvae are dark brown in color, like dead foliage. Because of the behavior of the larvae, when rearing this group, the dead and dying plant matter must be retained until the larvae are large enough to be easily separated from the refuse. The junior author had more success in our initial rearing because he did not discard any of the dead and decayed foliage until the larvae could be easily located.

Larvae from the 4th instar to pupation did not curl into a "C" position but stiffened and straightened when disturbed.

First instar larvae feeding on decaying Dandelion leaves, June 21, 2019

Prepupal *Lacinipolia laudabilis* larvae prior to diapause - August 1, 2019 – 27 mm

The larvae were kept in plastic containers lined with paper toweling. These containers were cleaned every 1-2 days. Each container held 6 to 8 larvae. After around 70-80 days, soil was added beneath the paper toweling to provide a site for pupation. The later instar larvae fed on more green leaves vs. dead leaves.

The larvae were difficult to find and clean during all instars. Their frass has a high liquid content and stained everything it contacted. The larvae were secretive and gregarious night feeders. Even though the larvae acted as if they had a virus, because they defecated frequently and their frass was very watery, their mortality rate was less than 10 %. The larvae were almost always found congregated beneath leaf litter in all instars. Some larvae also disappeared during later instars. We felt that the larvae could be cannibalistic, but neither observed cannibalism nor found cannibalized larva.

The length of the period from ova eclosure to prepupal larvae is approximately 60 days. The larvae reached their Maximum size of 25-28 mm in the final instar before shrinking during the prepupal period.

Prepupal *Lacinipolia larvae* in diapause and cocoons–September 20, 2019

The major surprise in the life history was the lengthy prepupal larval period (around 30 days). During this stage, the larvae seemingly entered diapause. They became very lethargic rarely fed, and shrunk in size before eventually burying themselves in soil and pupating. After around 90 total days, the larvae spun a loose cocoon in the soil and pupated. Approximately 20 adults emerged in September 2016, around 120 days after eclosing from their ova and 30 days after pupating. All adults that eclosed in September 2016 were normal in size and appearance.

The second rearing in 2019 was more closely monitored than the 2016 rearing. Data obtained from the second rearing are below.

Data from the 2019 rearing:

Female collected 6/3/2019 – Concord, Cabarrus Co., NC
Oviposition – 6/3 – 6/15/2019
Larva to adult – shortest – 6/3 – 9/30 – 118 days
Longest – 6/15 – 10/19 – 126 days
Average – 120 days
Ova to first instar larvae – 5 – 7 days – average – 6 days
First instar to prepupal larvae – 60 – 63days – average 61 days
Prepupal larvae to pupa – 28 – 30 days – average – 29 days
Pupa to adult – 29 – 34 days – average – 32 days
Total time ova to adult – average 120 days
Total average time oviposition to adult – 126 days
Maximum larval size before prepupal shrinkage 25 – 28 mm

Comments:

David L. Wagner's image and description of *Lacinipolia explicata* larvae and behavior (3) are very similar to the appearance and behavior of *Lacinipolia laudabilis* larvae. Food plants for all three species are similar. *Lacinipolia implicata* adults are likewise, very similar to adults of both *L. laudabilis* and *L. explicata* (1). It is possible that three

species form a group within this genus. Details of the life history of *L. implicata* have, to my knowledge, yet to be published.

Similar species:

The three species mentioned above are all similar to *L. laudabilis*. *L. implicata* is the most similar, it can easily be separated from *L. laudabilis* by the color of the hindwings. *L. implicata* has black hindwings while *L. laudabilis* has white hindwings. *L. explicata* like *L. implicata* also has dark hindwings. For a more detailed discussion of the differences between these species, please see Covell's Peterson Field Guide (4), and Moth Photographer's Guide (2) for an excellent visual summary of the differences between these species.

Voucher Specimen:

A reared specimen of *Lacinipolia laudabilis* will be submitted to BOLD to serve as a molecular voucher for this study, and will be deposited at the University of Connecticut.

Internet References:

1. North American Moth Photographers Guide (MPG) – Superfamily Noctuidae – Subfamily Hadeninae – genus – *Lacinipolia* – filter by state – North Carolina: Range Maps, Flight periods by state, Photographs of living and pinned adults, Similar species and differences between them.

2. MPG – see above – See the similar species section in the discussion under *Lacinipolia implicata*.

Literature Cited:

3. **David L.Wagner, Dale L. Schweitzer, J. Bolling Sullivan, Richard Reardon,** *Owlet Caterpillars of Eastern North America*, Princeton University Press, 201-pgs. 512 –513.

4. **Charles V. Covell, Jr.,** *Peterson Field Guides - Eastern Moths*, Houghton Mifflin Co.-1984-pg.104.

Acknowledgments:

I would like to thank My son, Andrew R. Willis and his family Julianna, Grant, Andrew, and Benjamin for allowing me to use an office in their residence in Concord, NC, as both an office and laboratory. Without their generous support this article would not have happened.

Another son, Mark B. Willis generously assisted me in rearing the larvae in both broods. Neither brood would have been reared to adults without his help!

David L. Wagner provided much valuable information on the life histories of *Lacinipolia* from his experiences rearing this genus.

(Darryl Willis, E-Mail: dtwillis1@verizon.net)

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PHENOLOGY OF BUTTERFLIES ON CUMBERLAND ISLAND, CAMDEN COUNTY, GEORGIA

BY
MARC C. MINNO AND MARIA F. MINNO

Barrier islands commonly occur along the Atlantic and Gulf coasts of the United States. These sandy islands are at the mercy of the ocean and storms and are ever changing in size and shape. Barrier islands are at ground zero for climate change effects such as rising sea levels, and studies of their biota will help to document how plants and animals are responding to the changes.

Cumberland Island is the southern-most barrier island along the Atlantic Coast of Georgia. Most of the island is natural conservation land in the Cumberland Island National Seashore. However, there are also some private residences and parcels. Major upland plant communities are beach dunes, oak-pine forest, scrub, flatwoods, and disturbed areas, such as old fields and weedy lawns that are often heavily grazed by horses.

Thousands of people visit the Cumberland Island every year to see wild horses, learn about the island's colorful history, and enjoy the beaches and natural beauty. About 20,000 acres of Cumberland Island are uplands, consisting mostly oak and/or pine forest, and nearly 17,000 acres of wetlands, mostly saltmarshes. At least 583 species of vascular plants have been reported from Cumberland Island (Zomlefer *et al.* 2008). Approximately, 11% of these are not native to the southeastern U.S.A.

From June 26-27, 2010, to September 19-21, 2012, we visited Cumberland Island to document the butterflies present and the natural resources they use (Minno and Minno 2019). Here we discuss the species richness and abundance of butterflies in greater detail.

METHODS

We made 11 trips to Cumberland Island and searched for butterflies on 26 days with at least 140 site visits and more than 105 hours of observation in the field. We visited various habitats throughout the island. We did not sample in January, July, November, or December. For this paper we obtained climate data for Fernandina Beach, Florida, from the U.S. Climate Data web site at https://www.usclimatedata.com/climate/fernandina-beach/florida/ united-states/usfl0144

Fernandina Beach is located on Amelia Island, Nassau County, Florida, just across the St. Marys River and only about three miles south of Cumberland Island.

RESULTS

We found at least 68 species of butterflies on Cumberland Island. February had the fewest butterflies (Fig. 1) with only 10 species and 18 adults tallied on 2/13/2012. The greatest numbers were found in September with 34 species, 1270 individuals on 9/1-3/2012 and 36 species and 1,070 individuals on 9/19-21/2012. There was also a peak in March with 32 species and 242 individuals tallied, followed by gradual declines in species richness and abundance over the summer.

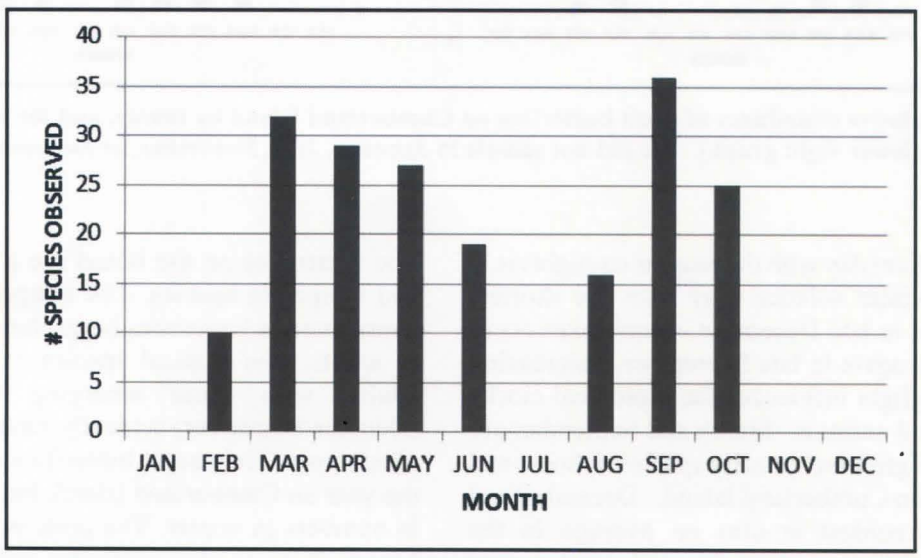

Fig. 1. Number of butterfly species observed on Cumberland Island per month. We did not sample in January, July, November, or December.

We also compared the relative abundance of adults by butterfly family (Fig. 2). The Hesperiidae, Lycaenidae, Nymphalidae, and Pieridae showed similar patterns with the greatest numbers of adult butterflies in September. Some families had small increases in March, April, or May, and then fewer butterflies in summer. In contrast, the Papilionidae had a very different pattern, with greatest numbers in March, then declining through the summer and fall.

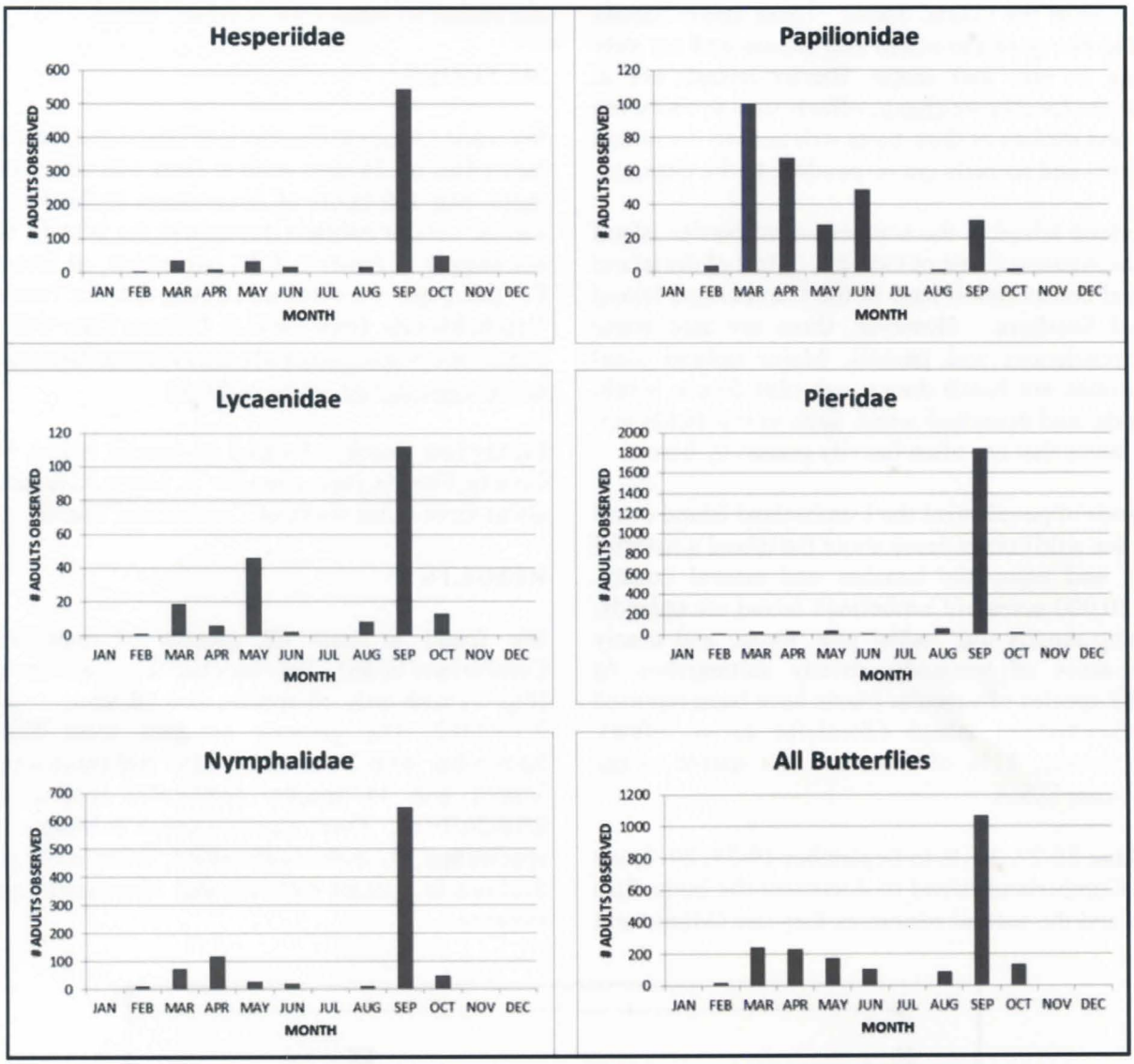

Fig. 2. Relative abundance of adult butterflies on Cumberland Island by family, and for all butterflies (lower right graph). We did not sample in January, July, November, or December.

DISCUSSION

The summer solstice (day with the longest daylight) is in late June. The winter solstice (day with the shortest daylight) happens in late December. Equinoxes occur in late March and again in late September. Increasing or decreasing daylight influences the biological clocks of many plants and animals. March and September are also the months of greatest butterfly species richness and adult abundance on Cumberland Island. December and January are the coldest months on average in the Cumberland Island area (Fig. 3), and winter cold synchronizes the plant and butterfly populations.

The butterflies on the island are a mixture of tropical and temperate species. The temperate species mostly overwinter as immatures (eggs, larvae, pupae) or a few as adults. The tropical species overwinter mostly as adults, with those emerging late in the year (October-December) typically having a special winter phenotype. Thus adult butterflies occur all months of the year on Cumberland Island, but are greatly reduced in numbers in winter. The peak in species richness in March (Fig. 1) also coincides with new growth and flowering of many plants. A few butterflies on Cumberland Island are univoltine, such as *Callophrys*

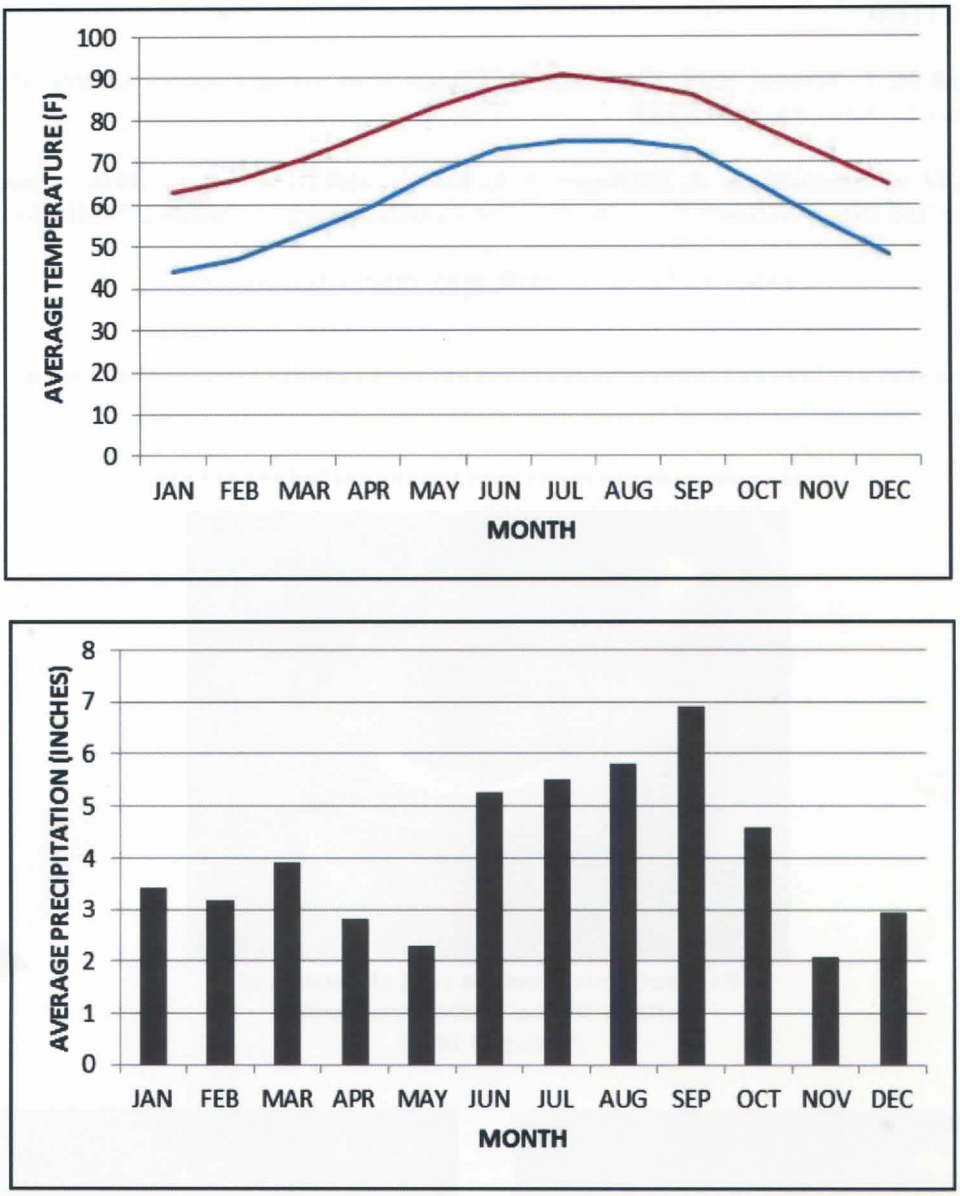

Fig. 3. Average monthly low (blue) and high (red) temperature (°F) and precipitation (inches) at Fernandina Beach, Florida (https://www.usclimatedata.com).

henrici, Erynnis brizo, and *Erynnis juvenalis*, which fly mostly from February through April, and *Satyrium favonius,* which flies in late April and early May; however, most have several generations per year.

Butterfly species richness and adult abundance on Cumberland Island are lower in the summer months (June, July, and August), then increase tremendously in September. June, July, and August are the hottest months, but also receive much more rainfall than in January through May (Fig. 3). Second generation adults of multivoltine species breed in early summer; the warmer, wetter conditions coupled with better quality host plants allow for increasing populations, which emerge as third generation adults in late summer to early fall, especially September.

Late summer and early fall are also times of great dispersal for tropical butterflies, with some species such as *Anartia jatrophae, Ascia monuste, Cecropterus dorantes, Heliconius charithonia*, and *Danus gilppus* heading northward out of Florida. Many others such as *Danaus plexippus, Junonia coenia, Agraulis vanillae, Vanessa cardui, Phoebis sennae*, and *Urbanus proteus,* fly southward into Florida. In November and December, cooler temperatures, lower rainfall, and decreasing daylight likely provide cues for butterflies to prepare for the coming winter.

Why swallowtails (Papilionidae) were more abundant during the first half of the year is a mystery, since all seven of the species found on Cumberland Island are breeding residents that have several generations per year.

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(Marc C. Minno, E-Mail: marc.minno@gmail.com)

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Resident lizard from the yard of Donna and Matthew Blaine, Melbourne, Florida (Spring of 2020).

Variegated Ginger. The warm spring provided Donna and Matthew Blaine some blooms that they usually do not get to see (Melbourne, Florida).

MOTH CUBE: A LEPIDOPTERA LIGHT TRAP PROTOCOL FOR LARGE GROUP ENGAGEMENT

BY

WILLOW S. LOVECKY [1], EMMA S. SCHNEIDER [2], & KATHRYN A. LECROY [3]

Using light traps has been a common practice when surveying nocturnally active Lepidoptera, and their designs are continually improved upon to suit needs of Lepidopterists of all skill levels around the world (White et al. 2016, Wölfling et al. 2016). Used commonly are protocols such as Robinson traps, Skinner traps, Rothamstead traps, Heath traps, and sheet traps (Muirhead - Thomson 1991). Each protocol has been developed in part to answer questions relating to moth diversity, abundance, and behavior. Although these protocols work well to answer the research questions for which they were designed, many of these protocols may not be well-suited for passive surveying or educational events, particularly with large groups of individuals. In this brief report, we describe a light-source moth attracting protocol - the "moth cube" - that allows for larger groups to participate in moth surveys and educational programming.

Structure

We constructed a 5.5 by 5.5-foot cube structure by using 1.5-inch diameter PVC pipe and connectors (Fig. 1). We chose PVC because it provided a structure that was light weight, portable, and could be readily assembled and disassembled. The material used to make the structure could vary depending on the purpose of the moth cube (Fig. 1). For our purpose, using PVC, it would be useful for episodic events like a BioBlitz or community program because of its portability. For long term use in a specific spot, using material like rebar or wood and staking the structure into the ground would be more useful. This maybe useful for events like National Moth Week or seasonal surveys.

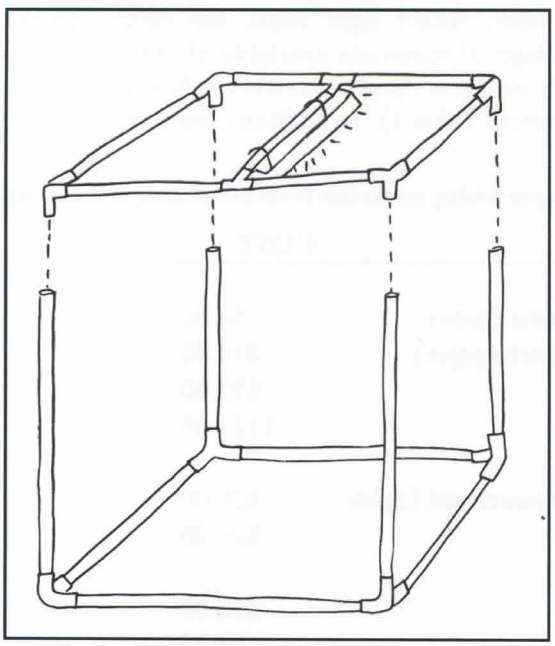

Fig. 1. Schematic drawing of moth cube structure. Specific dimenions are detailed under the "Structure" section.

Lighting

For lighting we used two 40-watt 48 inch medium bi-pin (T12) black fluorescent light bulbs in a 2-bulb linear shop light. The lighting was attached to the top of the PVC structure as indicated in Fig. 1. We attached the light to the PVC structure using chains that came with the shop light, but other materials such as rope could be used. We initially used two 40-watt 48-inch medium bi-pin (T12) 4100K cool white fluorescent light bulbs, and with this light source, we noticed greatly delayed settling behavior, such that observed moths would take extensive time to land on the sheet material and would instead circle around the cube, infrequently settling onto the cube sheet material. When we switched instead to using the black fluorescent light bulbs as our lighting source, the moths would take less time to settle upon the sheet material and would stay still on the sheet. This is an aspect of the moth cube that we continue to research by comparatively studying moth settling behavior with other light trap protocols (Wölfling et al. 2016).

Sheet Material

To cover the structure, we constructed a sheet to fit over the moth cube structure. We used white 100 percent cotton material (Beadle & Leckie 2012). We cut five 5.7-foot squares, and sewed the squares together. This made a fitted sheet that could be removed and placed back onto the cube. This allows the sheet to be washed, which we found very helpful. We found that our cube covering fit very tightly, and we would recommend cutting the original squares 5.9 by 5.9 feet to prevent ripping and difficulty placing the sheet onto the structure.

Discussion

Compared to a typical, single-plane light sheet trap, the moth cube design offers a greater surface area on which moths can land. Similarly, with more dimensions of the sheet trap, the moth cube increases the space where people are able to approach and interact with the insects

coming to the sheet trap, instead of crowding around each other to view a single sheet's worth of moths. Significantly more people can have up-close interactions and observations with moths on the sheet material without obstructing the view of every other participant (Fig. 2). From our experience deploying the moth cube using the dimensions we specify in the methods, we estimate up to sixteen children and adults could engage with the moth cube with a foot-length distance between each individual. At the time of this publication, current 2020 United States Centers for Disease Control guidelines during the COVID-19 global pandemic for social distancing are in place (CDC 2020). We estimate four individuals at a time could use the moth cube while obeying these social distancing guidelines.

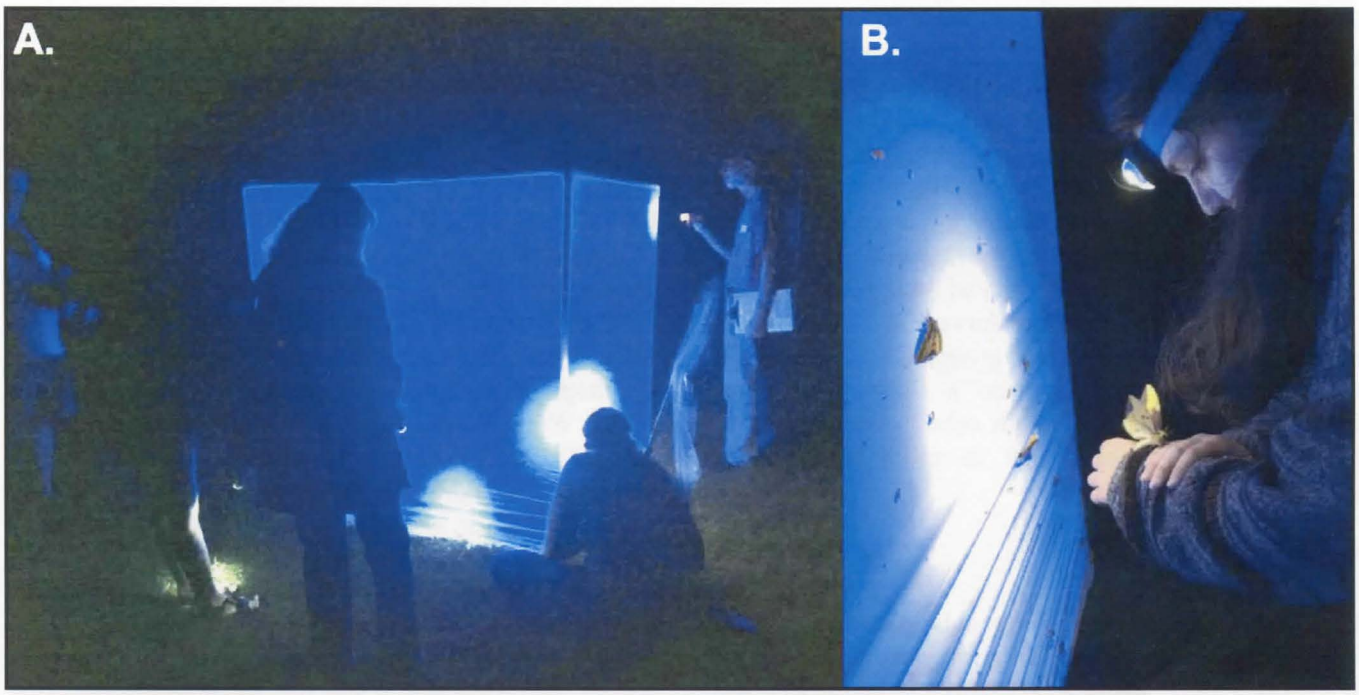

Fig. 2. Photographs of moth cube with observers. A) from a distance and B) by one side of the cube.

Another detail of note when using the moth cube protocol is the necessity for assistive lighting for moving around the moth cube to observe moths on the sheet material. We recommend utilizing red headlamps or flashlights. Similar to some other light trap designs, electricity is needed to power the lights we use, either by generator or nearby electrical outlet. Battery-powered lighting modifications should be explored with this protocol.

Like many insect light traps, the moth cube takes advantage of materials available at craft or hardware supply stores, or these materials can be repurposed from other uses (Table 1). In addition, our moth cube design

Table 1. Items and estimated typical cost using all-new materials. Repurposing materials from other uses is encouraged.

ITEM	COST
Structure:	
2 T-Shaped PVC Connectors (for 1.5-inch diameter pipes)	$4.00
8 Three-Way PVC Connectors (for 1.5-inch diameter pipes)	$16.00
4 2.75-foot long PVC Pipe (1.5-inch diameter)	$23.00
11 5.5-foot long PVC Pipe (1.5-inch diameter)	$121.00
Lighting:	
2 40-watt 48-inch Medium Bi-pin (T12) Black Fluorescent Lights	$20.00
1 2-Bulb Linear Shop Light	$20.00
Sheet Material:	
10 Yards of White 100% Cotton Material	$50.00
Thread	$5.00
TOTAL COST:	$259.00

utilizes a light source that does not require protective eye coverings for viewers, and other light sources could be switched in and trialed as desired. One advantage with the moth cube design compared to a number of other light trap protocols is the lack of fumigants that may be used in lethal light traps, which can prove harmful for humans if exposed to these fumes (Muirhead - Thomson 1991). Furthermore, this moth cube protocol is not a lethal trap, and therefore studies conducted with the goal of killing moths for specimen collection would need to utilize kill jars or other lethal collection methods to capture specimens on the surface of the moth cube.

An advantage of the moth cube is the variety of modifications that can make the moth cube more or less portable, depending on long-term or short - term trapping events. The dimensions of the structure can be adapted for smaller-sized moth light cubes or larger, depending on the goal of the trapping event. Additionally, given its portability and probability of being transported to many locations, general wear and tear of the sheet material on the moth cube should be expected. Our protocol is best suited for flat terrain. When the moth cube is placed on uneven terrain, moths may fly inside of the cube and are no longer able to be observed. However, the moth cube could be modified to better suit a specific terrain by varying the structure design or modifying the size of the cube.

Explicit measures of abundance, diversity, and behavior are yet to be studied with this design, but we are eager to explore these aspects further. Recognizing that some of the premier research in Lepidoptera is made possible with historic and ongoing efforts of citizen scientists (Cooper 2016), we should continue to create and promote protocols that are accessible to amateurs, naturalists, citizen science program participants, and moth enthusiasts of all ages to study moths.

Acknowledgements We would like to thank Melanie Schneider for sewing expertise, we are grateful to Mark Lovecky for assistance in logistics and construction, and we thank Steve Carroll at Blandy Experimental Farm in Boyce, VA, for allowing us to conduct trials of the moth cube with the Shenandoah Chapter of the Virginia Master Naturalist Program.

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PHOTOS FROM TRINITY RIVER NATIONAL WILDLIFE REFUGE

BY
STUART MARCUS

GEOMETRIDAE: *Fernaldella fimetaria*,
Green Broomweed Looper.

NOCTUIDAE: *Condica concisa*

NOCTUIDAE: *Cobubatha orthozona*

OECOPHORIDAE: *Promalactis suzukiella*,
Suzuki's Promalactis Moth
("*An exotic spreading westward*")

MIMALLONIDAE: *Cicinnus melsheimeri*,
Melsheimer's Sack-bearer Moth

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 Florida report, winter and spring 2020:

Sightings recorded in Gainesville, Alachua Co., from January 1 to May 1, 2020 by C. V. Covell Jr.:

Vanessa atalanta	Jan. 2, Feb. 6, 20
Pyrisitia lisa	Jan. 2, Feb. 18
Heliconius charithonia	Jan. 3, 6, 17, 24, 28 (Joanne Auth photo)
Urbanus proteus	Jan. 5
Phoebis sennae	Jan. 5, 7, 11, Feb. 13, 16, 18, March 3, 10, 12, 14, 17, 19, 20, 21
Leptotes cassius	Jan 9, 10, March 24, Apr. 26
Libytheana carinenta	Jan. 11, March 17, 19, 20, Apr. 21
Danaus plexippus	Feb. 4, 19, 20, March 19, 20, 24, 30, Apr. 7, 19, 27, 28
Heraclides cresphontes	Feb. 16, March 14, 16, 17
Junonia coenia	Feb. 20, March 3, 17, 19, 21
Eurema daira	March 3
Erynnis sp.	March 3
Papilio troilus	March 10, 14, 17
Papilio palamedes	March 19, 21
Atlides halesus (photo, Joanne Auth)	March 26
Agraulis vanillae	Apr. 2, 9, 20
Moth: Lycia ypsilon (Geometridae)	Feb. 3

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Reports from Ronda Spink and Barbara Woodmansee:

Ichetucknee State Park, North Entrance – Columbia Co., FL, 3/19/2020, Ronda Spink and Barbara Woodmansee, 89 sightings, 16 species: Battus philenor (adult and one ovum), Eurytides marcellus (adults plus two ova), Heraclides cresphontes (adults and one ovum), Papilio troilus, Papilio palamedes, Phoebis sennae, Pyrisitia lisa, Phyciodes tharos, Vanessa atalanta, Junonia coenia (adults and one larva), Anaea andria (adults and ova), Hermeuptychia sosybius, Erynnis juvenalis (adults and one ovum), Erynnis horatius, Hesperia attalus, and Megathymus cofaqui (no adults, ten ova).

San Felasco Hammock Preserve - Alachua County, FL, 3/18/2020, Ronda Spink and Barbara Woodmansee, 289 sightings, 25 species: Battus philenor (adults and ovum), Eurytides marcellus (adults, larva and ova), Heraclides cresphontes, Papilio glaucus, Papilio troilus, Papilio palamedes, Phoebis sennae (adult, larva and ova), Eurema daira, Abaeis nicippe, Hemiargus ceraunus, Phyciodes phaon, Vanessa virginiensis, Vanessa atalanta, Junonia coenia, Limenitis arthemis astyanax, Anaea andria, Hermeuptychia sosybius, Megisto cymela (includes viola), Danaus plexippus, Urbanus proteus, Thorybes pylades, Hylephila phyleus, Polites vibex, Megathymus yuccae (adults and ova), and Megathymus cofaqui (adult and ova).

Big Bend WMA-Tide Swamp Unit - Taylor County, FL, 04/07/2020, Ronda Spink and Barbara Woodmansee, 502 sightings, 27 species: Eurytides marcellus, Papilio troilus, Papilio palamedes, Phoebis sennae, Satyrium calanus, Parrhasius m-album, Calycopis cecrops, Libytheana carinenta, Phyciodes phaon, Phyciodes tharos, Polygonia interrogationis, Vanessa atalanta, Junonia coenia, Enodia portlandia, Satyrodes appalachia, Cyllopsis gemma

Hermeuptychia sosybius, Megisto cymela (includes viola), Danaus plexippus, Danaus gilippus, Epargyreus clarus, Nastra lherminier, Lerema accius, Hylephila phyleus, Polites themistocles, Polites vibex, and Euphyes vestris.

Big Bend WMA-Hickory Mound - Taylor County, FL, 4/16/2020, Ronda Spink and Barbara Woodmansee, 1634 sightings, 33 species: Papilio polyxenes asterius, Papilio glaucus, Papilio troilus, Papilio palamedes, Phoebis sennae, Satyrium favonius, Strymon melinus, Calycopis cecrops, Brephidium isophthalma, Libytheana carinenta, Agraulis vanillae, Heliconius charithonia, Phyciodes phaon, Phyciodes tharos, Polygonia interrogationis, Vanessa virginiensis, Junonia coenia, Limenitis arthemis astyanax, Limenitis archippus, Hermeuptychia sosybius, Megisto cymela (includes viola), Danaus plexippus, Danaus gilippus, Urbanus proteus, Lerema accius, Hylephila phyleus, Polites vibex, Wallengrenia otho, Wallengrenia egeremet, Anaatrytone logan, Euphyes pilatka, Oligoria maculata, and Panoquina panoquin.

Dixie Mainline Road, Lower Suwannee National Wildlife Refuge - Dixie County, FL, 4/21/2020, Ronda Spink and Barbara Woodmansee, 187 total sightings, 26 species: Eurytides marcellus, Papilio polyxenes asterius, Papilio palamedes, Phoebis sennae, Abaeis nicippe, Satyrium favonius, Calycopis cecrops, Hemiargus ceraunus, Phyciodes phaon, Phyciodes tharos, Vanessa atalanta, Junonia coenia, Anartia jatrophae, Limenitis archippus, Hermeuptychia sosybius, Danaus plexippus, Danaus gilippus, Epargyreus clarus (larva), Urbanus proteus, Erynnis zarucco, Polites vibex, Wallengrenia otho, Problema byssus, Euphyes pilatka, Oligoria maculata and Panoquina panoquin.

Lower Suwannee Nature Drive - South Entrance - Levy County, FL, 4/22/2020, Ronda Spink and Barbara Woodmansee, 873 total sightings, 38 species: Battus philenor, Eurytides marcellus, Papilio polyxenes asterius, Papilio palamedes, Colias cesonia, Phoebis sennae, Pyrisitia lisa, Satyrium favonius, Strymon melinus, Calycopis cecrops, Libytheana carinenta, Euptoieta claudia, Phyciodes phaon, Phyciodes tharos, Polygonia interrogationis, Vanessa virginiensis, Vanessa atalanta, Junonia coenia, Anartia jatrophae, Limenitis arcchippus, Asterocampa celtis, Asterocampa clyton, Hermeuptychia sosybius, Megisto cymela (includes viola), Danaus plexippus, Danaus gilippus, Erynnis horatius, Nastra neamathla, Lerema accius, Ancyloxypha numitor, Hylephila phyleus, Polites vibex, Wallengrenia otho, Anatrytone logan, Problema byssus, Poanes viator, Euphyes pilatka and Oligoria maculata.

Lower Suwannee Nature Drive - North to South Entrance - Levy County, FL, 4/28/2020, Ronda Spink and Barbara Woodmansee, 556 sightings, 34 species: Eurytides marcellus, Papilio polyxenes asterius, Papilio palamedes, Pontia protodice, Colias cesonia, Phoebis sennae, Pyrisitia lisa, Satyrium favonius, Strymon melinus, Calycopis cecrops, Euptoieta claudia, Phyciodes phaon, Phyciodes tharos, Polygonia interrogationis, Vanessa atalanta, Junonia coenia, Limenitis archippus, Asterocampa celtis, Satyrodes appalachia, Hermeuptychia sosybius, Danaus plexippus, Danaus gilippus, Urbanus proteus, Erynnis horatius, Nastra lherminier, Lerema accius, Ancyloxypha numitor, Hylephila phyleus, Polites themistocles, Polites vibex, Wallengrenia otho, Anatrytone logan, Problema byssus, and Oligoria maculata.

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

James sends in the following report:

Most records are from James Adams (JKA or no notation), Lance Durden (LD), Brian Scholtens, and Jeff Slotten (JS). Other contributors are spelled out with the records. Most records are of uncommon species, county records, and records for new locations. All records are 2020 unless otherwise specified.

Cooper's Creek WMA, Sea Creek Falls area, Fannin Co., May 2:
PAPILIONIDAE: *Pterourus appalachiensis*, common.

Calhoun, Gordon Co., 346 Sunset Drive (home of JKA):
COSSIDAE: *Inguromorpha basalis*, May 24 (COUNTY; few records in Georgia). **GEOMETRIDAE**: *Phaeoura quernaria*, female (females VERY uncommon at lights in Georgia), April 5.

Rocky Face ridgeline, just W of Dalton at crest of Dug Gap Battle Rd., Whitfield Co:
March 3-4:
NOCTUIDAE: *Lithophane querquera*, dark form (see image Fig. 1).
March 27-28:

GEOMETRIDAE: *Anticlea multiferata, Orthofidonia flavivenata* (common), *Lomographa semiclarata* (COUNTY), *Metarranthis* sp. nov. **NOCTUIDAE**: *Morrisonia evicta.*

April 28-29:

EREBIDAE: *Spilosoma latipennis* (common), *Metria amella* (this moth has become regular in north Georgia). **NOCTUIDAE**: *Properigea* near *costa.*

May 24-25:

GEOMETRIDAE: *Lytrosis permagnaria.* **NOCTUIDAE**: *Chrysanympha formosa, Acronicta morula, A. fallax, Apamea nigrior, A. vulgaris, Magusa divaricata, Properigea* near *costa.*

Fig. 1. ***Lithophane querquera***

Fig. 2. ***Adela caeruleella*** **(Giff Beaton)**

Taylor's Ridge, 5 mi. W of Villanow, Walker Co.:

March 26-27:

GEOMETRIDAE: *Selenia kentaria.* **SPHINGIDAE**: *Sphecodina abbotii.* **EREBIDAE**: *Zale helata.* **NOCTUIDAE**: *Lithophane querquera, Pyreferra hesperidago, Morrisonia evicta.*

May 5-6:

GEOMETRIDAE: *Glena plumosaria.* **EREBIDAE**: *Spilosoma latipennis, Zale horrida.* **NOLIDAE**: *Nola pustulata* (common). **NOCTUIDAE**: *Chrysanympha formosa, Acronicta tritona.*

Crockford-Pigeon Mountain WMA, 9 mi. WSW of LaFayette, Walker Co.:

March 27:

PIERIDAE: *Pieris virginiensis* (abundant). **GEOMETRIDAE**: *Lomographa semiclarata* (COUNTY). **NOCTUIDAE**: *Psychomorpha epimenis.*

April 17:

ADELIDAE: *Adela caeruleella* (see image Fig. 2 by Giff Beaton). **LYCAENIDAE**: *Callophrys* (*Mitoura*) *gryneus*, strongest flight I have seen of this species in the three decades I've been in Georgia (see image Fig. 3 by Giff Beaton). **PAPILIONIDAE**: Although none of our species are rare, this is one of the few days that I actually encountered ALL six local species in one day: *Battus philenor, Eurytides marcellus, Papilio polyxenes, Heraclides cresphontes, Pterourus glaucus*, and *P. troilus.*

May 10:

PAPILIONIDAE: *Eurytides marcellus*, extended first brood.

May 23:

PAPILIONIDAE: *Eurytides marcellus* STILL flying.

Salacoa Road at Salacoa Creek, 5 miles ESE of Fairmount:

March 26:

GEOMETRIDAE: *Lomographa semiclarata* (COUNTY)

April 21:

PAPILIONIDAE: *Eurytides marcellus* was ABUNDANT.

Serenbe, lights at Serenbe Pool, Fulton Co., GA, Giff Beaton:

GEOMETRIDAE: *Scopula cacuminaria* (STATE record, see image Fig. 4 by Giff Beaton), May 2. **NOCTUIDAE**: *Acronicta betulae* (see image Fig. 5 by Giff Beaton), April 7.

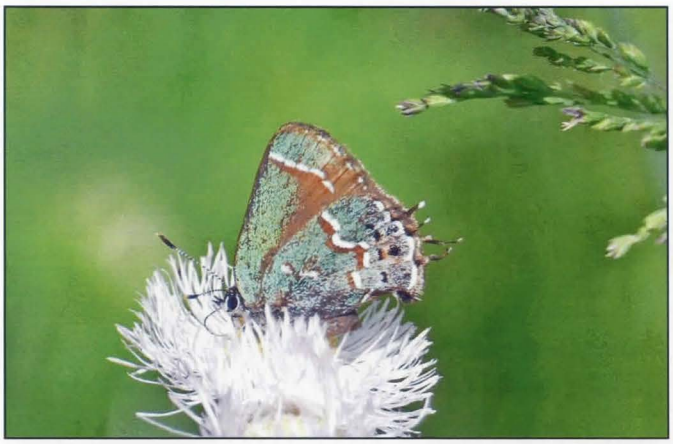


Fig. 3. ***Callophrys* (*Mitoura*) *gryneus*** **(Giff Beaton)**

Fig. 4. ***Scopula cacuminaria*** **(Giff Beaton)**

Fig. 5. ***Acronicta betulae*** **(Giff Beaton)**

Fig. 6. ***Glaphyria peremptalis*** **(Rosy Payne)**

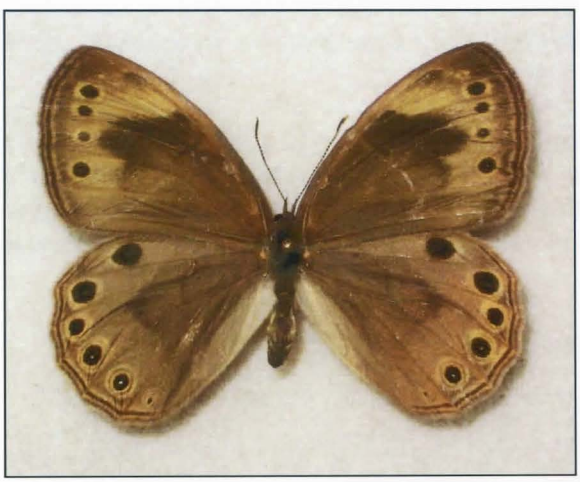


Fig. 7. ***Satyrodes appalachia*** **(Lance Durden)**

Fig. 8. ***Macaria coortaria*** **(Lance Durden)**

Macon, Bibb Co., May 2, Rose Payne:
CRAMBIDAE: *Glaphyria peremptalis* (STATE record, see image Fig. 6 by Rose Payne), May 2 and May 4.

Statesboro, Bulloch Co., LD:
NYMPHALIDAE: *Satyrodes appalachia* (COUNTY, far south record; see image Fig. 7 by Lance Durden), April 8.

Canoochee Sandhills WMA, Bulloch Co., April 28-29, LD:
SESIIDAE: *Podosesia syringae, Paranthrene simulans*. **MEGALOPYGIDAE**: *Megalopyge pyxidifera* (COUNTY, northernmost record in Georgia). **GEOMETRIDAE**: *Macaria coortaria* (STATE record, see image Fig. 8 by Lance Durden), *Glena cognataria, Idaea ostentaria* (COUNTY, significant northward extension), *Idaea micropterata, Scopula timandrata*. **EREBIDAE**: *Idia scobialis* (COUNTY). **NOLIDAE**: *Afrida ydatodes* (COUNTY).

Alligator Creek WMA, 2 miles N of Lumber City, Wheeler Co., with LD and JS, March 13- 15:

This is a new location for us for trapping, certainly this time of year, so many of these will be county records. Truly unexpected/unusual records are indicated.

Sandhills sites:
SESIIDAE: *Synanthedon acerni "tepperi"*. **GEOMETRIDAE**: *Hethemia pistaciaria, Fernaldella georgiana* (COUNTY; first location away from the Ohoopee system, and VERY EARLY). **LASIOCAMPIDAE**: *Phyllodesma americana*. **EREBIDAE**: *Spilosoma dubia, Sigela eoides* (COUNTY), *Gondysia similis* (COUNTY; see image Fig. 9), *Drasteria graphica* (COUNTY; this is the fifth location, and farthest inland, besides the Fall Line Sandhills in Taylor County; see image Fig. 10), *Zale horrida, Z. perculta* (see Cypress/Fetterbush sites, below; see image in *Zale perculta* article, this issue). **NOCTUIDAE**: *Ulolonche modesta* (farthest southwest in Georgia; see image Fig. 11), *Sideridis vindemialis* (COUNTY, and just the third location known in Georgia; see image Fig. 12), *Feltia manifesta* (COUNTY, second location on the coastal plain).

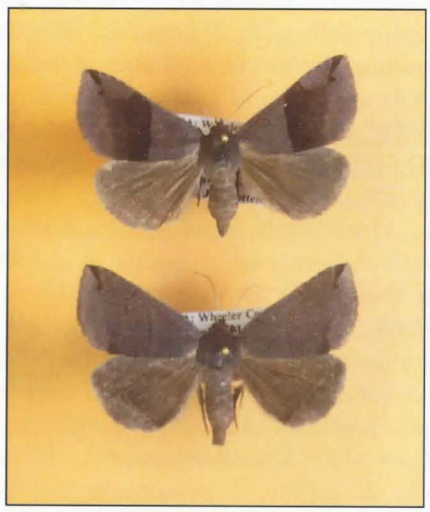


Fig. 9. ***Gondysia similis***

Fig. 10. ***Drasteria graphica***

Fig. 11. ***Ulolonche modesta***

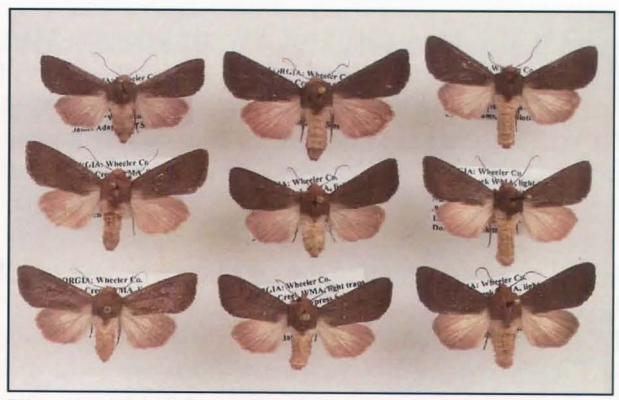


Fig. 12. ***Sideridis vindemialis***

Edge habitat between sandhills and cypress:
EREBIDAE: *Drasteria graphica, Gondysia similis, Zale perculta*. **NOCTUIDAE**: *Sympistis perscripta* (COUNTY, fourth location in state; see image Fig. 13), *Lithophane abita* (COUNTY, farthest inland for this cypress specialist in Georgia), *Sideridis vindemialis.*

Cypress/Fetterbush habitat:
SESIIDAE: *Synanthedon acerni "tepperi"*. **TORTRICIDAE**: *Archips argyrospila, Platynota flavedana, Zomaria interruptolineana*. **CRAMBIDAE**: *Parapoynx allionalis, Elophila obliteralis*. **GEOMETRIDAE**: *Hydriomena*

Fig. 13. ***Sympistis perscripta***

transfigurata, Nemoria elfa, Synchlora frondaria, Hethemia pistasciaria, Chlorochlamys chloroleucaria, Macaria distribuaria, Anavitrinella pampinaria, Ilexia intractata, Episemasia solitaria, Petrophora divisata (COUNTY, farthest inland on the coastal plain),*Tacparia zallisaria, Euchlaena amoenaria.* **SPHINGIDAE**: *Isoparce cupressi, Paonias myops.* **LASIOCAMPIDAE**: *Phyllodesma americana.* **APATELODIDAE**: *Olceclostera angelica.* **EREBIDAE**: *Hyphantria cunea, Drasteria graphica, D. grandirena, Gondysia similis, G. smithii, Epidromia rotundata* (COUNTY), *Zale perculta* (this Climbing Fetterbush specialist was COMMON, and not only near the fetterbush, but out into the Sandhills areas; we recorded over 40 specimens in the two nights; see image in *Zale perculta* article, this issue), *Zale squamularis.* **NOLIDAE**: *Nola clethrae, Nola triquetrana.* **NOCTUIDAE**: *Cerma cora, Acronicta interrupta, A. fallax, Alypia octomaculata* (in trap), *Sympistis perscripta, Properigia tapeta, Anicla lubricans, Feltia manifesta, F. subterranea.*

Generally distributed:

COSSIDAE: *Prionoxystus robineae.* **GEOMETRIDAE**: *Hydriomena* sp., *Costaconvexa centrostrigaria, Scopula lautaria, Nemoria bifilata, Hethemia pistaciaria, Chloropteryx tepperaria, Eumacaria madopata, Macaria bicolorata, M. transitaria, M. distribuaria, Protoboarmia porcelaria, Iridopsis defectaria, I. humaria, Hypomecis umbrosaria, Epimecis hortaria, Tornos scolopacinarius, Phigalia denticulata, Epimecis solitaria, Lomographa vestaliata, Euchlaena pectinaria, E. amoenaria, Pero ancetaria, Probole amicaria, Plagodis phlogosaria, Metarranthis obfirmaria, Eutrapela clemataria, Prochoerodes lineola.* **LASIOCAMPIDAE**: *Tolype notialis.* **SATURNIIDAE**: *Antheraea polyphemus.* **SPHINGIDAE**: *Paonias myops.* **NOTODONTIDAE**: *Nadata gibbosa, Macrurocampa marthesia, Heterocampa guttivitta, H. umbrata, H. biundata, Schizura unicornis.* **EREBIAE**: *Halysidota tesselaris, Idia americalis, Bleptina caradrinalis, Tetanolita floridana, Hypsoropha monilis, Phyprosopus callitrichoides, Plusiodonta compressipalpis, Pangrapta decoralis, Argyrostrotis flavistriaria, A. erasa, A. deleta, A. sylvarum, A. quadrifilaris, Lesmone hinna, Cutina albopunctella, Cissusa spadix, Phoberia atomaris, Caenurgia chloropha, Panopoda rufimargo, Mocis marcida, M. disseverans, Metria amella, Zale lunifera, Allotria elonympha.* **EUTELIIDAE**: *Marathyssa basalis.* **NOCTUIDAE**: *Rachiplusia ou, Megalographa biloba, Polygrammate hebraeicum, Acronicta brumosa, A. afflicta, Balsa tristigella, B. labecula, Condica videns, Elaphria festivoides, E. georgei, Spodoptera ornithogalli, Galgula partita, Iodopepla u-album, Xystopeplus rufago, Egira alternans, Phosphila miselioides, P. turbulenta, Chytonix palliatricula, Athetis tarda, Morrisonia confusa, M. mucens, Ulolonche culea, Mythimna unipunctata, Leucania incognita, L. extincta, L. adjuta, L. scirpicola, Anicla infecta, Agrotis venerabilis, A. ipsilon.*

Griffin Ridge WMA, Long Co., 5 mi. SW of Ludowici, March 11-12:

GEOMETRIDAE: *Lycia ypsilon* (although common here, this is not a moth found in a lot of locations), *Phaeoura quernaria* (including two females, rare at lights in Georgia, as indicated above). **EREBIDAE**: *Cutina arcuata* (COUNTY), *Drasteria graphica* (one of four or five known locations in the state). **NOCTUIDAE**: *Cerma cora, Alypia wittfeldi* (COUNTY), *Elaphria georgei, Feltia manifesta* (one of just three locations known on the coastal plain).

Dixon Memorial WMA, north of the Okeefenokee Swamp, Ware Co., March 12-13:

Cypress Swamp:

GEOMETRIDAE: *Scopula timandrata, Nemoria elfa, N. bifilata, Iridopsis ephyraria, Glena cognataria, Tacparia zalissaria.* **EREBIDAE**: *Virbia fergusoni, Parahypenodes quadralis, Sigela penumbrata, Ptichodis pacalis, Gondysia similis.*

Scrub oak/pine:

GEOMETRIDAE: *Hypomecis bucholzaria, Tacparia zalissaria, Petrophora divisata, Caripeta aretaria.* **SATURNIIDAE**: *Hyalophora cecropia.* **EREBIDAE**: *Virbia fergusoni, Spilosoma dubia, Ptichodis pacalis, Pseudanthracia coracias, Zale squamularis.* **NOCTUIDAE**: *Condica claufacta* (COUNTY), *Elaphria georgei.*

Near Hofwyl Plantation, northern Glynn Co., Mike Chapman:

CRAMBIDAE: *Loxtostegopsis merrickalis*, April 4. **NOCTUIDAE**: *Gonodes liquida* (COUNTY, second Georgia location), March 21.

Sapelo Island, McIntosh Co., BS & LD:

New records for Sapelo Island (also noted where they are GA state records):

PRODOXIDAE: *Prodoxus decipiens*, Lighthouse, May 8, 2018. **TINEIDAE**: *Nemapogon acapnopennella* (possible) – Nanny Goat Beach, May 8, 2018 (would be a STATE record); *Diachorisia velatella*, Airport, April 27, 2019. **GRACILARIIDAE**: *Cameraria conglomeratella*, Nanny Goat Beach, Airport, Miller Pump Rd., April 27, 2019 (STATE record). **COSMOPTERIGIDAE**: *Perimede falcata*, Short Cut Rd; May 8, 2018 (STATE record). **GELECHIIDAE**: *Dichomeris costarufoella*, Airport, April 27, 2019 (STATE record); *Sinoe kwakae*, Nanny Goat Beach, Short Cut Rd, April 27, 2019, May 8, 2018; *Besciva* nov. sp., Lighthouse, Airport, UGA dorm area, May 8, 2018 (STATE record); *Taygete gallaegenitella* (probable), Short Cut Rd, May 8, 2018 (STATE record); *Chionodes sevir*, Short Cut Rd, May 8, 2018 (STATE record); *Ymeldia janae*, Nanny Goat Beach, Lighthouse, May 8, 2018 (STATE record); *Sitotroga cerealella*, Nanny Goat Beach, April 27, 2019 (STATE record). **TORTRICIDAE**: *Cenopis pettitana*, Horse Pasture Rd, May 8, 2018 (STATE record); *Cenopis cana*, UGA dorm area, April 27, 2019 (STATE record); *Olethreutes furfuranum*, Nanny Goat Beach, April 27, 2019 (STATE record); *Eucosma ambodaidaleia*, Nanny Goat Beach, Lance Durden, Feb. 23, 2016 (STATE record); *Epiblema resumptana*, Nanny Goat Beach, May 8, 2018 (STATE record); *Crocidosema perplexana*, Nanny Goat Beach, May 8, 2018 (STATE record). **CRAMBIDAE**: *Microcrambus biguttellus*, Lighthouse, Lance Durden, Sept. 18, 2016; *Microcrambus minor*, Nanny Goat Beach, Lance Durden, Sept. 18, 2016 (STATE record); *Glaphyria basiflavalis*, Nanny Goat Beach, April 27, 2019 (STATE record); *Lygropia rivulalis*, Airport, April 27, 2019 (STATE record); *Ostrinia obumbratalis*, Nanny Goat Beach, April 27, 2019 (STATE record).

May 14-18, JA and LD: Uncommon species on the island, with new records for Sapelo Island indicated ("island").

SESIIDAE: *Carmenta texana* (ABAC house, Old Beach Road). **COSSIDAE**: *Cossula magnifica* (Nanny Goat Beach, Old Beach Road). **LACTURIDAE**: *Lactura subfervens sapeloensis* (abundant; see image Fig. 14). **MEGALOPYGIDAE**: *Norape ovina* (island; at ABAC house). **GEOMETRIDAE**: *Scopula aemulata* (Old Beach Road), *Leptostales crossi* (junction Miller Pump and West Perimeter roads), *Macaria pustularia* (island; widespread), *Iridopsis* or *Hypomecis* sp. (island; small, possibly new), *Stenaspilatodes antidiscaria* (cypress, dune), *Tetracis crocallata* (island; cypress). **NOTODONTIDAE**: *Heterocampa subrotata* (Old Beach Road), *Dasylophia thyatiroides* (Short Cut Road). **EREBIDAE**: *Dasychira meridionalis* (island; several), *D. atrivenosa* (island; Old Beach Road), *Pyrrharctia isabella* (Nanny Goat Beach), *Hypercompe scribonia* (ABAC house), *Leucanopsis longa* (island; airport cane, Old Beach Road), *Syntomeida epilais* (airport), *Dahana atripennis* (Short Cut Road), *Redectis vitrea, Sigela eoides* (Miller Pump Road), *Sigela* sp. nov. (island; at bait; ABAC house), *Hyperstrotia aetheria, Argyrostrotis quadrifilaris, Catocala epione* (island; junction Miller Pump and West Perimeter roads), *Catocala delilah* (Short Cut Road, dune, see image Fig. 15), *Catocala sordida* (island; Short Cut Road), *Catocala jair* (airport cane), *Euclidia cuspidea* (several), *Phytometra rhodarialis, Cutina albopunctella* (dune?!), *Zale fictilis* (island; dune, Old Beach Road, airport), *Z. helata* (island; cypress), *Z. squamularis* (cypress, dune). **NOLIDAE**: *Afrida ydatodes, Nycteola metaspilella* (island; airport powerline cut). **NOCTUIDAE**: *Actonicta hasta* (island; ABAC house, Old Beach Road), *A. lobeliae* (island; ABAC house), *Eudryas unio* (airport cane, ABAC house), *Sympistis eleaner* (nature trail, see image Fig. 16), *Derimma stellata* (dune, Short Cut Road), *Gonodes liquida* (Old Beach Road), *Fagitana littera* (island; airport cane, see image Fig. 17), New genus and new species (perhaps more than one species), cane feeder (island; airport cane, see image Fig. 18), *Photedes enervata* (island; Short Cut Road).

Fig. 14. *Lactura subfervens sapeloensis*

Camden Co., May 2, Kyli Duke:

CRAMBIDAE: *Terastia meticulosalis* (COUNTY).

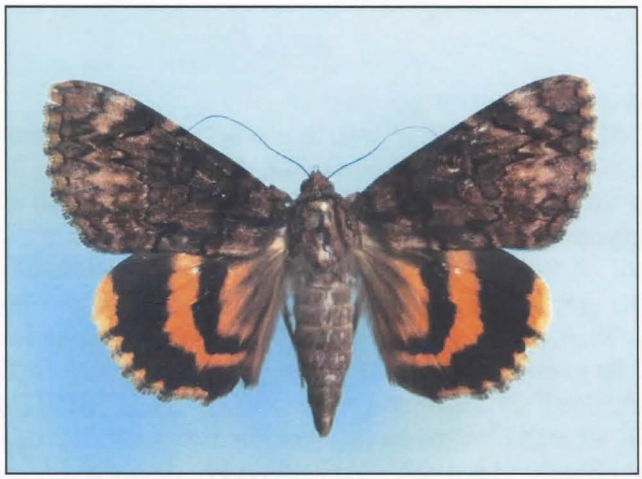


Fig. 15. *Catocala delilah*

Fig. 16. *Sympistis eleaner*

Fig. 17. *Fagitana littera*

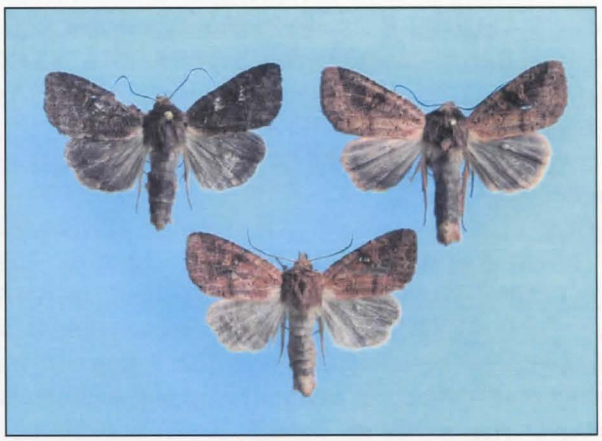


Fig. 18. New genus and new species (perhaps more than one species)

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 sends in the following report:

17 April to 10 May 2020, *Synanthedon kathyae*, *Sannia uroceriformis*, and *Podesia syringae*, Osborne Prairie, Oktibbeha county, MS, in pheromone traps.

5 June 2020, *Dasychira matheri* and *Catocala illecta*, Vicksburg, Warren county, MS at MV light.

North Carolina: Harry LeGrand, 1109 Nichols Drive Raleigh, NC 27605, E-Mail: hlegrandjr@gmail.com

Harry sends in the following "SPRING BUTTERFLY RECORDS FOR NORTH CAROLINA – 2020".

Records are from January through May 2020, except as otherwise noted. Names in parentheses are counties.

Spring 2020 was very warm to start, with some of the warmest March temperatures on record, pushing flights from 10-14 days earlier than normal. This early spring continued into mid-April, but in the latter part of April and especially in May this warm spring disappeared, and May was one of the coolest ever in many places. Also, it was quite rainy this spring, especially in May; thus, there were no areas of below normal rainfall, but alas there were many days in the latter half of spring that were too wet, cool, and/or cloudy to conduct meaningful field work.

In addition, the COVID pandemic had two effects on butterflying effort – one a positive and one a negative. The positive was that, with most people out of work, there were many more submissions of sightings, especially on weekdays, than usual. The negative was that people stayed close to home, usually covering familiar places. Thus farther-afield efforts, such as in the southwestern mountains and in many coastal areas, had to be curtailed, owing to the inability to put several people in one vehicle and the desire to avoid group field trips and nights in motels.

There were quite a few exciting finds in the first half of the season, such as with elfins, but the latter part of the season was mostly lackluster. Exciting skipper records were nearly lacking. On the other hand, *Hermeuptychia sosybius* numbers continue to return to normal in the eastern half of the state, after being greatly depressed for several years owing to flooding events.

PIERIDAE:

Pyrisitia lisa, one seen by Rob Gilson at Latta Nature Preserve (Mecklenburg) was an early sighting for the state, on May 23. Most are not seen until July.

Euchloe olympia, the colony in Madison County – the state's only reliable site – is still doing well, as Pete Dixon noted one as early as March 16, and a peak of six on March 19 and March 27.

Pieris virginiensis, two were seen by Pete Dixon on the record early date of March 19 in Madison County.

LYCAENIDAE:

Lycaena phlaeas, a good count for the southern mountains was six, as seen by Derb Carter near Maggie Valley (Haywood) on May 24.

Atlides halesus, completely out of season was an adult seen by Bob Cavanaugh in his Newport (Carteret) yard on the odd date of January 3!

Callophrys irus, a first recent (in at least 30 years) mountain record was documented by a photo taken by Tom Howe in the southern part of the Great Smoky Mountains National Park (Swain) **(COUNTY)** on April 17, 2019. The photo was online at the BAMONA site and was carefully reviewed by many experts. There are three old records for other mountains counties, but all recent records are for the Coastal Plain and adjacent eastern Piedmont. A new county record, well removed from other recent counties, was one photographed by Derb Carter at the Voice of America Site A (Beaufort) **(COUNTY)** on April 17.

Callophrys henrici, this seemed to be a good season for them. There were a few good counts: six at Fort Fisher (New Hanover) on March 12, as noted by John Taggart; and five at Southern Pines (Moore) on March 14, as noted by Maureen O'Halloran.

Callophrys niphon, one seen by Loretta Lutman in her yard in Asheboro (Randolph) **(COUNTY)** on April 9 was notable, though the species was reported from six other counties this spring. An excellent tally was the seven seen by Gail Lankford and others in Sandy Mush Game Land (Buncombe) on April 3.

Erora laeta, the only record of the season was one seen by Gail Lankford on the road near her house in northeastern Buncombe County, on April 11.

Satyrium favonius, there were several excellent coastal counts – a state record (by far) 61 seen by Derb Carter on May 10 at Fort Fisher (New Hanover), 31 there on May 14 as noted by John Taggart, 15 at Theodore Roosevelt State Natural Area (Carteret) seen by John Fussell on May 15, and six seen by Taylor Piephoff at Ocean Isle Beach (Brunswick) on May 24.

Satyrium kingi, the earliest report for the season – though it mostly flies in June – was of two seen by Taylor Piephoff at Ocean Isle Beach (Brunswick) on May 24.

Satyrium calanus, Randy Emmitt had an excellent Piedmont count of 11 in his yard near Rougemont (Orange) on May 26.

Celastrina idella, this rather poorly known species can occur in large numbers in its single spring flight, where evergreen hollies are abundant in pocosins and other acidic forests. John Fussell saw 125 in the Croatan National Forest (Carteret) on March 21, and 25 more on the Craven County side of the forest on that date.

NYMPHALIDAE:

Dione vanillae, a presumed very late straggler was one seen on January 12 by K. Bell in Winston - Salem (Forsyth). Though this species can appear close to the coast in winter, any records far inland in January or February are remarkable.

Nymphalis antiopa, particularly scarce in coastal regions, three seen at Alligator River National Wildlife Refuge (Dare) by Jesse Anderson on February 9 was a notable find.

Polygonia comma, a count of 39 in Madison County on March 26 was excellent for a single observer and represent sa state all-time high count.

Vanessa cardui, not often reported in spring, the species was encountered an excellent seven times, between March 21 and May 26; sightings were made in Anson, Forsyth, Madison, New Hanover, Pitt, Richmond, and Wake counties.

Phycoides cocyta incognitus, another poorly known species in the Southeast, it was found in Madison County (three individuals) on April 22 by Pete Dixon et al.; Derb Carter had a very good count of ten in eastern Clay County on May 23. Also notable was a photo by S. Bridges northeast of Tuckasegee (Jackson) **(COUNTY)** on May 26, 2019 that filled a small gap in the range.

Phycoides batesii, few people spend time in the southwestern mountains looking for this species nowadays, owing to the great travel distance; thankfully, Derb Carter saw four at a known site in Clay County on May 23.

Cyllopsis gemma, Pete Dixon found large numbers at his favored dry woods Madison County site, with a state record count of 50 on April 11.

Hermeuptychia intricata, though not rare at least locally in parts of the southern Coastal Plain, all confirmed reports (vetted by Tom Austin) with photos are worthy of mention here, as we are still learning about its distribution and flight periods. Hunter Phillips and Mark Shields recorded one at Sandy Run Savannas State Natural Area (Onslow) on April 17; and Salman Abdulali photographed one at River Park North (Pitt) **(COUNTY)** on August 18, 2007.

HESPERIIDAE:

Telegonus cellus, the only records this spring came from their best state site, in Madison County, where a few were seen from April 17 – May 10; Pete Dixon had an excellent count of four on the last date.

Erynnis brizo, excellent counts were100 in Madison County, as noted by Pete Dixon on April 11 and 50 there on April 17; and 40 in the Sandhills Game Land (Scotland), as noted by Mike Turner on March 27.

Hesperia metea, once again the only state records came from Madison County, where Pete Dixon located a quite large colony, in addition to other nearby places previously found. A butterfly count on April 22 there, led by him, tallied a remarkable 12 individuals, which is a state one-day record (by one).

Oarisma minima, the first state record prior to April was one photographed in New Hanover County on March 18, on iNaturalist (observer not named),

Megathymus yuccae, there were a few reports this spring – one at Baytree Lake State Natural Area (Bladen) on March 29 (Mike Turner); and one in Cumberland County on April 14 (Ed Corey). Numbers of this species have seemingly declined in recent years, for unknown reasons.

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

Brian sends in the following report for South Carolina:

Mary Kastner; Richland Co., Blythewood; 17 Feb 2020
Nymphalidae
Vanessa atalanta
Will Stuart; Chesterfield Co., Little Sugarloaf Mountain, 17 Feb 2020
Lycaenidae
Callophrys niphon
Callophrys augustinus
Will Stuart; Chesterfield Co., Carolina Sandhills NWR, 17 Feb 2020
Lycaenidae
Celastrina sp.
Nymphalidae
Vanessa virginiensis
Libytheana carinenta
Dennis and Donna Forsythe; Charleston Co., I'On Swamp Rd. and trail; 6 Mar 2020
Pieridae
Phoebis sennae
Lycaenidae
Callophrys henrici
Nymphalidae
Polygonia interrogationis
Phyciodes tharos
Lethe portlandia
Hermeuptychia sosybius
Hesperiidae
Erynnis juvenalis
Allison Smith; Colleton Co., Donnelley WMA; 8 Mar 2020
Papilionidae
Papilio glaucus
Lycaenidae
Strymon melinus
Nymphalidae
Phyciodes tharos
Hermeuptychia sosybius
Hesperiidae
Epargyreus clarus
Erynnis juvenalis
John Demko; Aiken Co., Silver Bluff Audubon, Jackson,11 Mar 2020
Papilionidae
Eurytides marcellus
Pieridae
Anthocharis midea
Phoebis sennae
Abaeis nicippe
Lycaenidae
Cupido comyntas
Strymon melinus
Calycopis cecrops
Nymphalidae
Phyciodes tharos
Vanessa atalanta
Hesperiidae
Erynnis juvenalis
Erynnis baptisiae

Geometridae
Metarranthis obfirmaria

Dave & Marty Kastner; Lexington Co., Timmerman Trail, Cayce, 12 Mar 2020

Papilionidae
Eurytides marcellus
Pieridae
Anthocharis midea
Phoebis sennae
Abaeis nicippe
Lycaenidae
Celastrina sp.
Nymphalidae
Polygonia comma
Libytheana carinenta
Hesperiidae
Erynnis juvenalis

Doug Allen; Spartanburg Co., Blue Wall Preserve; 17 Mar 2020

Papilionidae
Eurytides marcellus
Papilio glaucus
Pieridae
Anthocharis midea
Lycaenidae
Celastrina ladon?
Nymphalidae
Polygonia interrogationis
Hesperiidae
Erynnis juvenalis

Dennis & Donna Forsythe,Berkeley Co., Francis Marion NF, Wilden Rd., 19 Mar 2020

Papilionidae
Papilio glaucus
Papilio palamedes
Pieridae
Phoebis sennae
Nymphalidae
Phyciodes tharos
Hermeuptychia sosybius
Hesperiidae
Erynnis zarucco
Thorybes pylades

Dennis & Donna Forsythe, Berkeley Co., Francis Marion NF, Cooter Creek Rd., 19 Mar 2020

Papilionidae
Papilio glaucus
Papilio palamedes
Pieridae
Phoebis sennae
Nymphalidae
Phyciodes tharos
Hermeuptychia sosybius
Lethe portlandia

Dennis & Donna Forsythe, Berkeley Co., Francis Marion NF, Port Rd., 19 Mar 2020

Papilionidae
Papilio glaucus
Papilio palamedes
Pieridae
Phoebis sennae

Nymphalidae
Phyciodes tharos
Hermeuptychia sosybius

John Demko; Aiken Co., Silver Bluff Audubon, Jackson, SC; 20 Mar 2020
Papilionidae
Eurytides marcellus
Papilio troilus
Papilio palamedes
Pieridae
Abaeis nicippe
Phoebis sennae
Anthocharis midea
Lycaenidae
Calycopis cecrops
Strymon melinus
Cupido comyntas
Nymphalidae
Phyciodes tharos
Hermeuptychia sosybius
Hesperiidae
Erynnis juvenalis
Noctuidae
Alypia octomaculata

Robert Gibson; Chesterfield Co., Cheraw State Park,21 Mar 2020
Papilionidae
Eurytides marcellus
Papilio glaucus
Papilio palamedes
Pieridae
Phoebis sennae
Lycaenidae
Callophrys augustinus
Callophrys henrici
Callophrys hesseli
Cupido comyntas
Celastrina sp.
Nymphalidae
Polygonia comma
Hesperiidae
Erynnis juvenalis

Robert Gibson; Chesterfield Co., Carolina Sandhills NWR,21 Mar 2020
Papilionidae
Eurytides marcellus
Pieridae
Phoebis sennae
Abaeis nicippe
Lycaenidae
Callophrys augustinus
Nymphalidae
Junonia coenia
Hesperiidae
Epargyreus clarus

Doug Allen; Spartanburg Co., neighbor's garden, 21 Mar 2020
Pieridae
Phoebis sennae

Lycaenidae
Celastrina neglecta
Hesperiidae
Erynnis juvenalis

Doug Allen; Spartanburg Co., Inman's Holston Creek Park, 21 Mar 2020
Pieridae
Anthocharis midea

Dennis & Donna Forsythe; Berkeley Co., Francis Marion NF, Hoover Rd.; 21 Mar 2020
Papilionidae
Papilio troilus
Papilio palamedes
Pieridae
Phoebis sennae
Abaeis nicippe
Nymphalidae
Vanessa atalanta
Phyciodes tharos
Hermeuptychia sosybius
Neonympha areolata
Hesperiidae
Urbanus proteus
Erynnis juvenalis

Doug Allen; Spartanburg Co., Caroland Farms; 25 Mar 2020
Papilionidae
Papilio glaucus
Pieridae
Anthocharis midea
Abaeis nicippe
Lycaenidae
Celastrina sp.

John Demko; Aiken Co., Silver Bluff Audubon, 3 mile Quail Trail, 26 Mar 2020
Papilionidae
Papilio glaucus
Papilio troilus
Pieridae
Phoebis sennae
Abaeis nicippe
Lycaenidae
Cupido comyntas
Strymon melinus
Calycopis cecrops
Nymphalidae
Junonia coenia
Phyciodes tharos
Vanessa virginiensis
Hermeuptychia sosybius
Hesperiidae
Erynnis juvenalis
Thorybes bathyllus
Erebidae
Caenurgia chloropha

John Demko; Aiken Co.,Silver Bluff Audubon, Kathwood Pond and Hollow Creek, 28 Mar 2020
Papilionidae
Papilio glaucus
Papilio palamedes
Papilio troilus

Pieridae
Phoebis sennae
Abaeis nicippe
Nymphalidae
Vanessa atalanta
Vanessa virginiensis
Limenitis archippus
Phyciodes tharos
Hermeuptychia sosybius
Junonia coenia
Hesperiidae
Eyrnnis baptisiae
Epargyreus clarus
Polites vibex
Lerema accius
Noctuidae
Alypia octomaculata

Doug Allen; Greenville Co., Blue Wall Preserve, 3 Apr 2020
Papilionidae
Eurytides marcellus
Papilio glaucus
Pieridae
Anthocharis midea
Abaeis nicippe
Lycaenidae
Celastrina neglecta
Hesperiidae
Epargyreus clarus
Erynnis juvenalis

John Demko; Aiken Co., Aiken Gopher Tortoise HP, 3 Apr 2020
Papilionidae
Papilio glaucus
Papilio troilus
Papilio palamedes
Lycaenidae
Calycopis cecrops
Nymphalidae
Vanessa virginiensis
Vanessa atalanta
Junonia coenia
Phyciodes tharos
Danaus plexippus
Hesperiidae
Erynnis juvenalis

Doug Allen; Spartanburg Co., Caroland Farms, 4 Apr 2020
Papilionidae
Eurytides marcellus
Papilio glaucus
Pieridae
Anthocharis midea
Colias eurytheme
Abaeis nicippe
Nymphalidae
Polygonia interrogationis
Nymphalis antiopa
Vanessa virginiensis
Cyllopsis gemma

Hesperiidae
Erynnis juvenalis

John Demko and Lois Stacey;Aiken Co.,Silver Bluff Audubon Sanctuary, 4 Apr 2020

Papilionidae
Battus philenor
Papilio glaucus
Papilio palamedes
Pieridae
Phoebis sennae
Lycaenidae
Calycopis cecrops
Cupido comyntas
Nymphalidae
Euptoieta claudia
Vanessa virginiensis
Junonia coenia
Phyciodes tharos
Hermeuptychia sosybius
Hesperiidae
Epargyrius clarus
Thorybes bathyllus
Thorybes confusis
Erynnis juvenalis
Hylephila phyleus
Euphyes vestris
Lerodea eufala
Noctuidae
Alypia octomaculata

Lois Stacey;Aiken Co.,Kathwood Rd, 50 yds from intersection with Silver Bluff, 4 Apr 2020

Nymphalidae
Anaea andria

Will Stuart; Chesterfield Co., Carolina Sandhills NWR, 8 Apr 2020

Papilionidae
Battus philenor
Papilio palamedes
Papilio troilus
Pieridae
Phoebis sennae
Abaeis nicippe
Lycaenidae
Callophrys irus
Celastrina sp.
Nymphalidae
Vanessa virginiensis
Vanessa atalanta
Junonia coenia
Hesperiidae
Epargyreus clarus
Achalarus lyciades
Erynnis juvenalis
Thorybes pylades
Lerema accius

John Demko; Aiken Co, Silver Bluff Audubon Sanctuary, 14 Apr 2020

Papilionidae
Papilio palamedes
Papilio glaucus
Pieridae
Phoebis sennae

Lycaenidae
Cupido comyntas
Celastrina ladon
Nymphalidae
Limenitis arthemis astyanax
Limenitis archippus
Euptoieta claudia
Phyciodes tharos
Lethe portlandia
Megisto cymela
Hermeuptychia sosybius
Vanessa virginiensis
Junonia coenia
Libytheana carinenta
Hesperiidae
Epargyreus clarus
Hylephila phyleus
Euphyes vestris
Saturniidae
Actias luna

Dave and Marty Kastner; Lexington Co., Timmerman Trail, Cayce, 17 Apr 2020

Papilionidae
Papilio glaucus
Eurytides marcellus
Pieridae
Phoebis sennae
Lycaenidae
Celastrina sp.
Nymphalidae
Phyciodes tharos
Polygonia interrogationis
Vanessa virginiensis + larvae
Vanessa atalanta
Libytheana carinenta (225 counted)
Junonia coenia
Limenitis arthemis astyanax
Asterocampa celtis
Hesperiidae
Epargyreus clarus

Carolyn Seaton; Lancaster Co., backyard, 24 Apr 2020

Papilionidae
Papilio glaucus
Eurytides marcellus
Pieridae
Phoebis sennae
Nymphalidae
Phyciodes tharos
Hesperiidae
Epargyreus clarus
Copaeodes minima

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

John sends in the following report:

In the mountains of NE Tennessee, the winter of '90-'20 was exceedingly mild and very wet. Through mid-March of '20, local rainfall exceeded twice the long-term average.

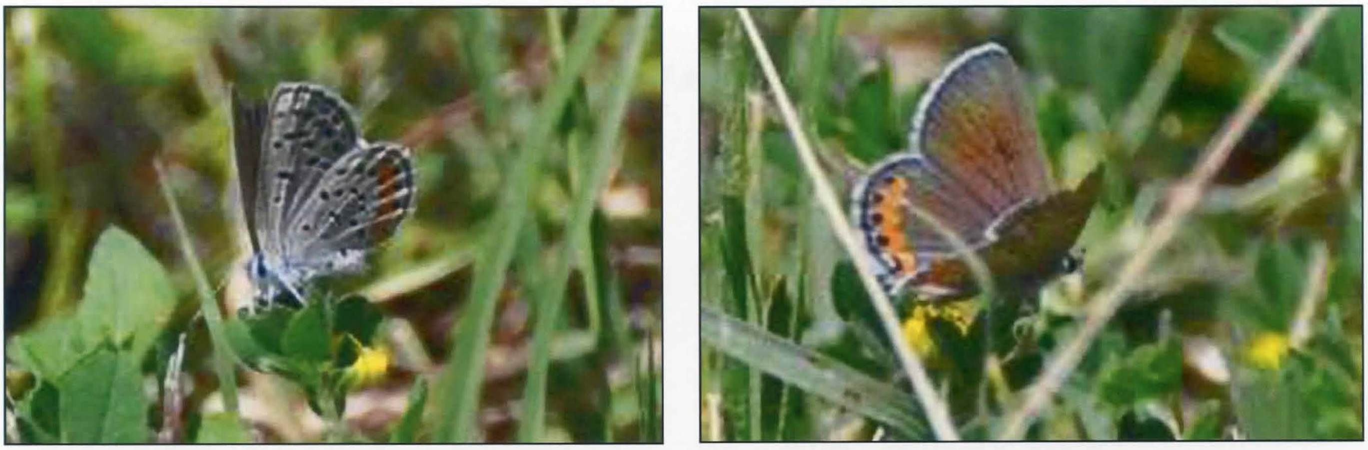
Butterflies were first noted in small numbers on March 11, which is just about my long-term average date for observing them. By March 27, *P. rapae, C. ladon, A. midea*, *P. glaucus, G. marcellus*, and *V. atalanta* were seen during the odd sunny moments between rains. *C. philodice* and *E. nicippe* (early occurrence) were also seen by Mar. 27 in Kingsport, TN.

Texas: Terry Doyle, 13310 Bar C Drive, San Antonio, TX 782253, E-Mail: tdoyls335@yahoo.com
Stuart Marcus, P.O. Box 463 Liberty, TX 77575, E-Mail: stuartmarcus13@gmail.com

Terry sends in the following report:

Bexar Co., TX, 13310 Bar C Dr., 4 March 2020
Anthocharis midea, single sight record
Callophrys henrici solatus, first of several seen in the month

Bandera Co., TX, Lost Maples State Natural Area, 27 April 2020
Icaricia lupini texanus, female,
Observer, Laurel Rhodes, Kerrvile, TX
Out of range. Closest other records in Texas; Chisos and Davis Mts. and Monterrey, Mexico.



Icaricia lupini texanus **(Photos by Laurel Rhodes)**

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Stuart sends in the following report:

Moths for Trinity River National Wildlife Refuge
Liberty County, TX
Feb 1, 2020 through April 30, 2020
Stuart.marcus13@gmail.com

The following moths were seen at least once during the month indicated on sheets using black and mercury vapor lights at Trinity River National Wildlife Refuge. A total of 15 species were seen at the refuge for the first time between Feb 1 and April 30, 2020. If you would like any photographs or phenology data dating back to 2012, please let me know at stuart.marcus13@gmail.com.

ACROLOPHIDAE
Acrolophus heppneri April
Acrolophus mycetophagus March, April
Acrolophus texanella April

ATTEVIDAE
Atteva aurea Feb, April

AUTOSTICHIDAE
Glyphidocera juniperella Feb, March

BLASTOBASIDAE
Blastobasis sp. March, April
Pigritia sp. Feb

CHOREUTIDAE
Tebenna gnaphaliella March, April

COLEOPHORIDAE
Coleophora cratipennella March

COSMOPTERIGIDAE
Triclonella bicoloripennis April

COSSIDAE
Cossula magnifica April
Prionoxystus robiniae March, April

CRAMBIDAE
Achyra rantalis April
Anageshna primordialis April
Argyria lacteella March, April
Chrysendeton medicinalis April
Cnaphalocrocis trapezalis April
Compacta sp. April
Crocidophora tuberculalis Feb
Desmia sp. March, April
Diacme adipaloides April
Diastictis fracturalis March, April
Donacaula sp. April
Elophila gyralis March, April
Elophila icciusalis March
Elophila obliteralis Feb, March, April
Elophila tinealis March, April
Epipagis fenestralis April
Euchromius ocelleus Feb, March, April
Eustixia pupula April
Glaphyria sequistrialis April
Herpetogramma fluctuosalis March
Hileithia magualis March
Hymenia perspectalis March, April
Leptosteges parthenialis April
Microcrambus elegans April
Microcrambus minor March
Niphograpta albiguttalis April
Nomophila nearctica March, April
Oenobotys sp. April
Ostrinia penitalis March, April
Palpita magniferalis April
Palpita quadristigmalis April
Parapediasia decorella April
Parapediasia teterrella March, April
Parapoynx allionealis Feb, March, April
Parapoynx seminealis April
Pyrausta acrionalis Feb, March, April
Pyrausta tyralis March, April
Samea multiplicalis March, April
Spoladea recurvalis March
Udea rubigalis Feb, March, April
Urola nivalis Feb, March, April

DEPRESSARIIDAE
Agonopterix argillacea Feb, March
Antaeotricha schlaegeri Feb, March, April

EREBIDAE
Abablemma brimleyana April
Allotria elonympha March
Amolita obliqua March
Apantesis sp. April
Caenurgia chloropha Feb, March, April
Catocala blandula April
Catocala clintonii April
Catocala minuta April
Catocala piatrix April
Cisseps fulvicollis Feb, March, April
Cisthene packardii March
Cisthene plumbea March, April
Cisthene unifascia March
Clemensia ochreata April
Colobochyla interpuncta April
Crambidia pallida March
Cutina albopunctella April
Dasychira manto March
Dasychira meridionalis March, April
Dasychira tephra April
Estigmene acrea Feb, March, April
Eublemma minima March
Euerythra phasma March
Halysidota sp. March, April
Hypena baltimoralis March
Hypena bijugalis April
Hypena scabra Feb, March, April
Hypercompe scribonia March, April
Hyphantria cunea Feb, March
Hypoprepia fucosa March, April
Hypsoropha hormos March, April
Hypsoropha monilis March
Isogona tenuis March
Lascoria ambigualis March
Ledaea perditalis March
Lesmone detrahens March, April
Metalectra discalis April
Metria amella March, April
Mocis marcida Feb, March, April
Nigetia formosalis March, April
Orgyia leucostigma April
Palthis asopialis March, April
Panopoda carneicosta March, April
Phyprosopus callitrichoides March
Plusiodonta compressipalpis March, April
Ptichodis vinculum March, April
Pyrrharctia isabella Feb, March, April
Renia adspergillus Feb, March, April
Schrankia macula Feb, March, April
Spilosoma virginica March, April
Tetanolita floridana Feb, April
Tetanolita mynesalis Feb, March, April
Virbia laeta Feb, March
Zale lunata April
Zanclognatha sp. April

EUTELIIDAE
Eutelia pulcherrima March
Marathyssa basalis March

Paectes abrostoloides March, April
Paectes oculatrix April

GELECHIIDAE
Aproaerema sp. Feb, March
Aristotelia corallina March
Arogalea cristifasciella March
Battaristis nigratomella April
Chionodes discoocellella Feb, April
Dichomeris ligulella March
Helcystogramma chambersella March
Monochroa sp. March, April
Neodactylota sp. (Possibly) March, April
Polyhymno luteostrigella March

GEOMETRIDAE
Cleora sublunaria March
Chlorochlamys chloroleucaria March, April
Costaconvexa centrostrigaria March, April
Cyclophora myrtaria March
Cyclophora packardi March
Digrammia gnophosaria Feb, March, April
Dyspteris abortivaria March
Eulithis sp. April
Eupithecia miserulata Feb, March, April
Eusarca confusaria April
Eutrapela clemataria April
Fernaldella fimetaria April
Haematopis grataria March
Hypagyrtis sp. April
Idaea tacturata April
Ilexia intractata March, April
Iridopsis defectaria March, April
Iridopsis pergracilis March
Iridopsis vellivolata April
Isturgia dislocaria March
Leptostales pannaria Feb, March, April
Lobocleta ossularia Feb, March, April
Lophosis labeculata March, April
Lycia ypsilon Feb
Macaria aequiferaria Feb, March
Macaria transitaria March
Mellilla xanthometata March, Aprip
Metarranthis homuraria March
Nematocampa resistaria March, April
Nemoria elfa March, April
Nemoria lixaria March, April
Orthonama obstipata April
Patalene olyzonaria April
Pero zalissaria March
Phaeoura quernaria Feb, April
Phigalia denticulate Feb
Phigalia strigataria Feb
Pleuroprucha insulsaria March, April
Scopula aemulata April
Synchlora frondaria Feb, March, April
Timandra amaturaria April
Tornos scolopacinaria March

GLYPHIPTERIGIDAE
Diploschizia impigritella April

LACTURIDAE
Lactura pupula April
Lactura subfervens Feb, March, April

LASIOCAMPIDAE
Artace cribrarius April
Heteropacha rileyana Feb, March, April
Malacosoma americana April
Malacosoma disstria April

LIMACODIDAE
Acharia stimulea April
Adoneta spinuloides March
Apoda biguttata March, April
Apoda y-inversum April
Euclea delphinii March, April
Isa textual March, April
Natada nasoni April
Prolimacodes badia March

MEGALOPYGIDAE
Megalopyge opercularis March, April

MIMALLONIDAE
Cicinnus melsheimeri March
Lacosoma chiridota April

MOMPHIDAE
Mompha eloisella March
Mompha rufocristatella April

NOCTUIDAE
Acronicta afflicta March, April
Acronicta clarescens March
Acronicta connecta March, April
Acronicta insularis April
Acronicta lobeliae March
Acronicta longa Feb, March
Acronicta oblinita April
Acronicta rubricoma March, April
Agrotis ipsilon March
Anicla infecta March, April
Anicla simplicius Feb, April
Argyrogramma verruca March
Cerma cerintha April
Chloridea virescens April
Cobubatha orthozona March
Comachara cadburyi March
Condica concisa March, April
Condica sutor April

Condica videns April
Copivaleria grotei March
Ctenoplusia oxygramma April
Elaphria chalcedonia Feb, March, April
Elaphria cyanympha March
Elaphria nucicolora April
Enigmogramma basigera March
Eudryas unio March, April
Galgula partita Feb, March, April
Harrisimemna trisignata April
Helicoverpa zea Feb
Homophoberia apicosa March, April
Leucania incognita Feb, March, April
Leuconycta lepidula March, April
Marimatha nigrofimbria March, April
Megalographa biloba April
Mythimna unipuncta Feb, March, April
Orthodes majuscule Feb, March
Ozarba nebula April
Peridroma saucia April
Phosphila miselioides March
Phosphila turbulenta Feb
Polygrammate hebraeicum March
Psaphida rolandi Feb
Rachiplusia ou Feb, March, April
Raphia frater Feb, March, April
Spodoptera eridania March
Spodoptera exigua April
Spodoptera ornithogalli Feb, March, April
Tarache aprica March
Tripudia quadrifera April

NOLIDAE
Afrida ydatodes Feb, March, April
Baileya acadiana March, April
Baileya ophthalmica March
Garella nilotica April
Meganola minuscula Feb, March, April
Nola cereella March

NOTODONTIDAE
Clostera inclusa March
Datana integerrima April
Furcula cinereal March, April
Gluphisia septentrionis March, April
Heterocampa guttivitta April
Heterocampa subrotata March
Lochmaeus bilineata March
Macrurocampa marthesia March
Misogada unicolor March, April
Oligocentria lignicolor April
Paraeschra georgica April
Peridea angulosa March
Schizura leptinoides March, April
Schizura unicornis Feb, March, April
Symmerista albifrons March

OECOPHORIDAE
Epicallima argenticinctella April
Inga sparsiciliella April

PLUTELLIDAE
Plutella xylostella Feb, April

PSYCHIDAE
Cryptothelea sp. April

PTEROPHORIDAE
Geina sp. April
Lioptilodes albistriolatus Feb, March
Pselnophorus belfragei Feb, March, April

PYRALIDAE
Acrobasis demotella April
Acrobasis exsulella April
Adelphia petrella Feb, March
Arcola malloi (Probably) March
Canarsia ulmiarrosorella April
Clydonopteron sacculana March
Dioryctria pygmaeella April
Epipaschia superatalis April
Eulogia ochrifrontella March
Heliades mulleolella April
Homoeosoma electella Feb, March
Laetilia coccidivora Feb, March
Macrorrhinia endonephele Feb, March, April
Moodna ostrinella Feb, March
Parachma ochracealis April
Phycitodes reliquellum Feb, March, April
Pococera asperatella April
Sciota celtidella March, April
Sciota uvinella March, April
Tlascala reductella March, April

SATURNIIDAE
Actias luna Feb, March, April
Automeris io April
Eacles imperialis April

SESIIDAE
Synanthedon acerni March

SPHINGIDAE
Amorpha juglandis March, April
Ceratomia amyntor March
Darapsa myron March, April
Deidamia inscriptum March
Enyo lugubris March
Eumorpha achemon April
Hyles lineata April
Isoparce cupressi April
Manduca quinquemaculatus March
Manduca rustica April

Paratrea plebeja March
Xylophanes tersa April

TINEIDAE
Homostinea curviliniella April
Tinea apicimaculella April

TORTRICIDAE
Aethes angulatana Feb, March, April
Ancylis comptana Feb, April
Archips semiferana April
Argyrotaenia quercifoliana March, April
Bactra furfurana Feb, March, April
Cenopis cana April
Cenopis niveana April
Chimoptesis gerulae Feb
Choristoneura rosaceana March, April
Clepsis peritana Feb, March, April
Coelostathma discopunctana March
Coelostathma placidana March, April
Cydia caryana March
Cydia marita Feb
Endothenia hebesana Feb, March, April
Epiblema otiosana March
Epiblema strenuana April
Episimus tyrius March
Eucosma ambodaidaleia Feb
Eugnosta bimaculana March, April
Eumarozia malachitana Feb
Goditha bumeliana Feb, March
Gypsonoma salicicolana April
Paralobesia viteana April
Platphalonidia felix Feb, March, April
Platynota exasperatana April
Platynota flavedana Feb, March, April
Platynota idaeusalis March, April
Platynota rostrana Feb, March, April
Platynota semiustana April
Pseudexentera hodsoni Feb
Rhopobota dietziana Feb
Rhyacionia rigidana Feb
Rudenia leguminana March
Sereda tautana March
Sparganothis pulcherrimana April
Sparganothis sulfureana March, April

ZYGAENIDAE
Harrisina americana March, April

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Monica Krancevic submits the following report for **January 1 – May 16 (2020)**
Lake Jackson, Brazoria County, TX Residence (29.04N, 95.42W, 5m elev)
All observations are posted at: https://www.inaturalist.org/observations/krancmm

A Few Tidbits

- In past years I've seen 1-2 *Actias luna* (Luna Moths) at a time at lights. I was certainly surprised when I walked onto the patio the early morning of 15-May to see **10** gracefully lounging on the side of the house.
- Sphingidae (Sphinx Moths) numbers and species have been low since 2018. I especially miss *Enyo lugubris* (Mournful Sphinx), *Agrius cingulata* (Pink-spotted Hawkmoth), *Xylophanes tersa* (Tersa Sphinx).
- According to the US Drought Monitor and local meteorologists, high pressure over the entire Gulf of Mexico this past winter coupled with warmer than normal temperatures caused atypical moderate to severe drought in coastal counties from Florida to Texas. A few of the moths I saw this quarter may have propagated up the coast from the LRGV or to the east from drier southwestern areas. Not only were they less likely on the Upper Texas Coast but none were worn.

NEW at LOCATION (As I don't trap many of these have probably been around, just not when I was)

Family	Species	1st Date	Comments
Tineidae	*Phereoeca uterella*	6-Apr	6mm tl
Tineidae	*Monopis longella*	19-Mar	8mm tl; exotic
Tineidae	*Euprora argentiliniella*	15-Mar	9mm tl
Gracillariidae	*Neurostrota gunniella*	3-Apr	4mm total; Mimosa borer
Gelechiidae	*Coleotechnites florae*	21-Apr	6 tl
Glyphipterigidae	*Diploschizia impigritella*	25-Apr	5 tl
Lacturidae	*Lactura pupula*	28-Mar	10 tl
Tortricidae	*Epiblema scudderiana*	30-Mar	7 tl
Tortricidae	*Acleris semipurpurana*	29-Mar	ID: Michael Sabourin; 9mm tl

Family	Species	1st Date	Comments
Tortricidae	*Cenopis diluticostana*	10-Apr	ID: Jason Dombroskie; 6mm tl
Crambidae	*Eudonia strigalis*	8-Apr	9mm tl
Crambidae	*Perispasta caeculalis*	25-Apr	Male; 8mm fwl
Crambidae	*Anania plectilis*	26-Apr	9mm fwl
Crambidae	*Crambus quinquareatus*	11-Apr	11mm fwl
Pyralidae	*Salobrena vacuana*	15-Feb	ID: Alma Solis; Female; 8mm fwl
Pyralidae	*Honora mellinella*	4-May	8mm tl
Sphingidae	*Deidamia inscriptum*	16-Mar	37mm fwl; where has this been the last 5 years?
Erebidae	*Clemensia ochreata*	29-Apr	9mm tl; thank Nature I'm not in the range overlap
Erebidae	*Goniocarsia electrica*	17-Apr	ID: Jan Metlevski; 19mm fwl
Erebidae	*Melipotis jucunda*	17-May	20mm fwl
Noctuidae	*Cobubatha dividua*	9-May	10mm fwl; can show up anywhere, but usually west
Noctuidae	*Ponometia venustula*	25-Mar	Female; 10mm tl; usually from central TX to CA
Noctuidae	*Ponometia libedis*	14-Apr	10mm tl; typically western
Noctuidae	*Bellura obliqua*	27-Apr	ID: Chris Schmidt; 22mm fwl
Noctuidae	*Metaxaglaea australis*	26-Jan	Tentative ID: Vernon Brou; 25mm fwl
Lycaenidae	*Satyrium favonius*	7-Apr	At lights; have never seen in yard

Virginia: Harry Pavulaan, 606 Hunton Place, Leesburg, VA. 20176, E-Mail: Pavulaan@aol.com

Harry sends in the following 2020 spring report for Virginia:

Butterflies

New county records in **ALL-CAPS, bold, and underlined**.

Gesta juvenalis - Shenandoah Co.: Geo. Washington Nat. For., 4/12/2020 (1 photographed, several observed, James Fox).

Erynnis brizo - Shenandoah Co.: Geo. Washington Nat. For., 4/12/2020 (several observed, James Fox).

Eurytides marcellus – Loudoun Co.: Leesburg, Veteran's Memorial Park, 3/17/2020 (1 observed, Harry Pavulaan), 3/30/2020 (2 observed). Prince Edward Co.: near Hampden Sydney, Briery Creek W.M.A., 4/2/2020 (many observed, C. Michael Stinson).

Pieris rapae – Loudoun Co.: Leesburg, 3/17/2020 (1 observed, Harry Pavulaan). Rockingham Co., Elkton, 3/4/2020 (1 observed, Mike Smith).

Anthocharis midea annickae – Fauquier Co.: Sumerduck, C. F. Phelps W.M.A., 3/30/2020 (50 observed, Judy Gallagher). Loudoun Co.: Leesburg, Veteran's Memorial Park, 3/17/2020 (2 observed, Harry Pavulaan), 3/30/2020 (12 observed, netted, Harry Pavulaan). Prince Edward Co.: near Hampden Sydney, Briery Creek W.M.A., 4/2/2020 (many observed, C. Michael Stinson). Shenandoah Co.: Geo. Washington Nat. For., 4/12/2020 (several observed, James Fox).

Abaeis nicippe – Fauquier Co.: Sumerduck, C. F. Phelps W.M.A., 3/30/2020 (2 observed, Judy Gallagher). **FREDERICK Co.:** 4/5/2020 (1 photographed, James Fox).

Phoebis sennae – Loudoun Co.: Leesburg, 5/16/2020 (1 observed flying north, Harry Pavulaan)

Incisalia (Deciduphagus) henrici henrici – Fairfax Co.: Lorton, Meadowood Special Recreation Area, 3/13/2020 (several observed, Judy Gallagher). **NORTHUMBERLAND Co.:** (1 photographed, James Fox).

Incisalia niphon - Fauquier Co.: Sumerduck, 3/30/2020 (1 observed, Gary Myers).

Parrhasius m-album - Fauquier Co.: Sumerduck, C. F. Phelps W.M.A., 3/30/2020 (1 observed, Judy Gallagher).

Strymon melinus – Fauquier Co.: Sumerduck, C. F. Phelps W.M.A., 3/30/2020 (1 observed, Judy Gallagher).

Celastrina neglecta – Fauquier Co.: Sumerduck, C. F. Phelps W.M.A., 3/30/2020 (20 observed, Judy Gallagher). Loudoun Co.: Leesburg, Veteran's Memorial Park (all Harry Pavulaan), 3/8/2020 (1 netted), 3/14/2020 (4 netted), 3/17/2020 (50+ observed, netted or collected), 3/26/2020 (50+ observed, netted or collected), 3/30/2020 (50+ observed, netted or collected), various dates in diminishing numbers through April. Northumberland Co.: 4/5/2020 (1 photographed, James Fox). Shenandoah Co.: 4/12/2020 (1 photographed, James Fox).

Celastrina lucia - **SHENANDOAH Co.:** Geo. Washington Nat. For., 4/12/2020 (1 photographed, several observed, James Fox).

Libytheana bachmanni - Fauquier Co.: Sumerduck, C. F. Phelps W.M.A., 3/30/2020 (25 observed, Judy Gallagher). Loudoun Co.: Leesburg, Veteran's Memorial Park, 3/30/2020 (1 observed, Harry Pavulaan).

Polygonia comma – Loudoun Co.: Leesburg, Veteran's Memorial Park, 3/17/2020 (3 observed, Harry Pavulaan).

Cyllopsis gemma – Prince Edward Co.: near Hampden Sydney, Briery Creek W.M.A., 4/2/2020 (1 observed, C. Michael Stinson).

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The Southern Lepidopterists' News is published four times annually. Membership dues are $30.00 annually. The organization is open to anyone, especially those with an interest in the Lepidoptera of the southern United States. Information about the Society may be obtained from Marc Minno, Membership Coordinator, 600 NW 34 Terrace, Gainesville, FL 32607, E-Mail: mminno@bellsouth.net, and dues may be sent to Jeffrey R. Slotten, Treasurer, 5421 NW 69th Lane, Gainesville, FL 32653.

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