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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

NEW MOTH SPECIES FOUND ON KEY LARGO – MOTH WEEK 2022 JULY 23-31

BY

DAVID FINE

After over 2 years of the KEYS MOTHS project being shut down by the pandemic, I was finally able to get connected with Jeremy Dixon, the refuge manager at Crocodile Lake National Wildlife Refuge in North Key Largo, with the purpose of re-instating my permit to survey moths in the National Wildlife Refuges in the Florida Keys. With renewed permit in hand, my friend Ricky Palmero and I spent a night in the heart of Crocodile Lake NWLR with some mercury vapor lights to celebrate NATIONAL MOTH WEEK (July 23-31, 2022). The night went well and we were able to find a ton of moths including some very interesting finds! This short article will provide a recap of the evening plus a list of confirmed species seen in the refuge.

Black witch moth (*Ascalapha odorata*) drinking sweat off of Ricky's head.

Glow in the dark *Protambulyx strigilis* larva feeding on poisonwood host plant.

The night was a typical South Florida evening in July with hot and humid conditions. Temps were in the upper 80's with a 90% humidity. We did have a fairly strong eastern wind coming in off of the Atlantic Ocean (about 10-20 mph) which helped keep all of the salt marsh mosquitoes off of us however the winds kept us on our toes as we manned the light sheets because the light sheets were blowing around very strongly. We were also 100% blessed to not have any rain what-so-ever! We had a late start however and did not get our lights set up until after it was completely dark.

The first thing we noticed was that there were a lot of black witch moths *Ascalapha odorata*. We were seeing them flying around even before setting up the lights. We were able to find several dozen adults of the black witch that night. One even landed Ricky's head and started drinking sweat! We also went on a caterpillar walk hunting for larvae using a strong UV flashlight. Certain species of caterpillars light up fluorescent green when under this UV light and we were able to find a *Protambulyx strigilis* (streaked sphinx) larva as well as a *Erinnyis ello* (ello sphinx) larva. We also found several Hammock Skipper butterfly pupae on the leaves of their host plant – Jamaican Dogwood. The green pupae light up under UV lights as well.

Back at the light sheets, as the night hours passed, we found an impressive number of moth species as well as some nice longhorn beetles, click beetles and a bunch of cicadas and katydids. Some of the more impressive moth species included a few very fresh *Automeris io lileth* males. These individuals in the Florida Keys have a fantastic rust coloration compared to the more yellow colored individuals on the mainland of Florida. We also saw 14 species of Sphingids. Some of the more impressive species included 4 individuals of the GIANT SPHINX! *Cocytius antaeus* is a tough bug to find and I've only seen a handful of them in the Florida Keys since I began my project in 2002. This was Ricky's first time seeing a moth of this magnitude alive in person! He still talks about it! On this night, we saw 4 fresh male specimens at the mercury vapor lights. The papaya sphinx, *Erinnyis alope* is another moth that I have only seen a few of in the Florida Keys in the last 20 years. On this night, we saw 2 of them! The half blind sphinx, *Perigonia lusca*, is a moth species that is not necessarily 'rare' in the Keys but certainly is not easy to find. This night, we saw at least 6 individuals and while the white-lined sphinx moth (*Hyles lineata*) is perhaps one of the most common moths throughout North America, we have only seen 2 specimens in 20 years while in the Keys and we found number 3 on this night!

Some longhorn beetles that came to the light sheet.

Here is one of the 4 male *Cocytius antaeus* – giant sphinx moths that made it to the light sheet.

Half-blind sphinx – *Perigonia lusca* landed on the pavement.

***Erinnyis obscura* at the light sheet.**

There were more sphingid stories from this evening which are easy to go on and on about because, well, it's fun! But I wanted to turn my attention to a handful of other moths that showed up at lights that made it a memorable night. *Epimecis matronaria*, the beautiful large and showy geometrid moth, was abundant on this night which was a thing to see. The large females of this species have a wing span close to 3 inches! We also saw a few really cool Arctiid tiger moths including the Streaked Calidota, *Calidota laqueata* as well as the Snowy eupseudosoma, *Eupseudosoma involutum.* I also found 4 specimens of the beautiful noctuid fruit piercing moth *Gonodonta bidens*. I have only ever seen one specimen of this species before. Also, a "lifer" for me was the handsome little Pyralid moth, *Syllepis marialis.* There have only been two specimens seen in the duration of our project and were taken by Jim Troubridge on Key Largo (February 2012 and November 2013). This was the first one I have ever seen with my own eyes! And finally saving the best for last, I found a beautiful rust-colored geometrid moth that flew into the light at about 3:30 AM. It looked like *Sphacelodes vulneraria* but was definitely a different species. I consulted a few of my typical sources to help ID tough tropical moths and to this point, nobody recognizes it. If anyone knows the identity of this UFO, please send me an email and let me know (david@keysmoths.com).

HERE IS THE KEY LARGO UFO!! I BELIEVE!!! If anyone can help ID this moth please E-mail me at david@keysmoths.com

***Gonodonta bidens* is an extremely rare moth in South Florida. We saw 4 of them on this night.**

To conclude the article, we had a wonderful night full of interesting moths and I believe we will be adding another species to our KEYS MOTHS project list. We now have over 600 species of moths identified from the Florida Keys and we are still counting. If you'd like to check out some of the YouTube videos I created recording our findings on the evening, please check out the KEYS MOTHS YouTube channel! I'd love to have your support!

Here is a list of species that I have confirmed the identification for during our evening in North Key Largo.

"Micro-Lepidoptera"
Oiketicus abbotii
Tortyra slossonia
Megalopyge opercularis
Dichograma redtenbacheri
Gonocausta sabinalis
Diacme mopsalis
Samea ecclesialis
Desmia ploralis
Synclera jarbusalis
Omoides stigmosalis
Condylorrhiza vestigialis
Phaedropsis stictigramma
Syllepis marialis
Syngamia florella
Conchylodes diphteralis
Macalla thyrsisallis
Macalla zelleri

Geometridae:
Epimecis matronaria
Phrygionis paradoxata
Sphacelodes vulneraria
Oxydia vesulia transpondens
Sericoptera virginaria
Synchloria frondaria
Synchlora cupedinaria

Epiplemidae – Lasiocampidae:
Philagraula slossoniae
Artace cribrarius

Saturnidae:
Automeris io lilith

Sphingidae:
Agrius cingulata
Coctius antaeus
Protambulx strigilis
Erinnyis alope
Erinnyis ello
Erinnyis obscura
Phryxus caicus
Madoryx pseudothyreus
Perigonia lusca
Enyo lugubris
Cautethia grotei
Xylophanes pluto
Xylophanes tersa
Hyles lineata

Notodontidae:
Nystalea eutalanta
Heterocampa zayasi

Arctiidae:
Utetheisa bella
Apantesis nais
Halysidota cinctipes
Calidota laqueata
Pareuchaetes insulata
Eupseudosoma involuta
Lymire edwardsii
Syntomedia epilais

Noctuidae:
Hypenula cacuminalis
Hemeroplanis sp. Undescribed
Gonodonta bidens
Syllectra erycata
Epidromia rotundata
Melipotis fasciolaris
Melipotis prolata
Ascalapha odorata
Tyrissa multilinea
Selenisa sueroides
Coxina cinctipalpis
Paectes nana
Collomena filifera
Magusa divaricata

(David Fine: E-Mail: david@keysmoths.com)

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Social butterflies. Great spangled fritillary (*Speyeria cybele*) and painted lady (*Vanessa cardui*) nectaring on colony of pale purple coneflower (*Echinacea pallida*). Mt. Magazine, AR. July 1997. Gary Noel Ross.

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"Cover illustrations: 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)."

MANY THANKS TO THE FOLLOWING MEMBERS OF THE SOUTHERN LEPIDOPTERISTS' SOCIETY FOR THEIR DONATIONS

Sustaining	Contributor	Benefactor
Karl Gardner	*Bill Dempwolf*	*Tom Neal*
Paul Opler		
Bill Conner		

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"Maria van Oosterwijck was born in 1630 in Nootdorp, a town located near Delft in South Holland, the Netherlands. Her father was a Dutch Reformed Church minister, as was her grandfather. Her father took her, when she was quite young, to masterful still life painter Jan Davidsz de Heem's studio. With de Heem's influence, van Oosterwijck developed her interest in floral painting. She became his student, and she showed herself to have a talent for vividly painting realistic creations." [1]

Portrait of Maria van Oosterwijck, 1671, by Wallerant Vaillant

Vanitas-Still Life, 1668, Kunsthistorisches Museum (Note the Leps)

1. **Wikipedia,** https://en.wikipedia.org/wiki/Maria_van_Oosterwijck

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LIFE HISTORY PLATES OF REPRESENTATIVE SOUTHEASTERN BUTTERFLIES (PART 2)

BY

MARY JANE KROTZER AND STEVE KROTZER

In the previous issue of the SLS News, twelve life history plates provided an overview of the life cycles of southeastern butterflies of the six recognized families of the Superfamily Papilionoidea (Butterflies and Skippers). This photo essay provides ten additional examples representing five of the six families.

Giant Swallowtail, *Papilio cresphontes*, and Pipevine Swallowtail, *Battus philenor*, represent the Subfamily **Papilioninae** (Swallowtails) of the Family **Papilionidae**.

West Virginia White, *Pieris virginiensis*, represents the Subfamily **Pierinae** (Whites) of the Family **Pieridae**.

Dainty Sulphur, *Nathalis iole*, represents the Subfamily **Coliadinae** (Sulphurs) of the Family **Pieridae**.

Harvester, *Feniseca tarquinius*, represents the Subfamily **Miletinae** (Harvesters) of the Family **Lycaenidae**.

Edwards' Hairstreak, *Satyrium edwardsii*, represents the Subfamily **Theclinae** (Hairstreaks) of the Family **Lycaenidae.**

Texan Crescent, *Phyciodes texana*, represents the Subfamily **Nymphalinae** (True Brushfoots) of the Family **Nymphalidae**.

Gemmed Satyr, *Cyllopsis gemma*, represents the Subfamily **Satyrinae** (Satyrs) of the Family **Nymphalidae**.

Horace's Duskywing, *Erynnis horatius*, represents the Subfamily **Pyrginae** (Spread-wing Skippers) of the Family **Hesperiidae**.

Ocola Skipper, *Panoquina ocola*, represents the Subfamily **Hesperiinae** (Grass Skippers) of the Family **Hesperiidae**.

Figure 1. Giant Swallowtail, *Papilio cresphontes,* Bibb and Marengo counties, Alabama; Hostplants: Wafer Ash, *Ptelea trifoliata* and Hercules Club, *Zanthoxylum clava-herculis*

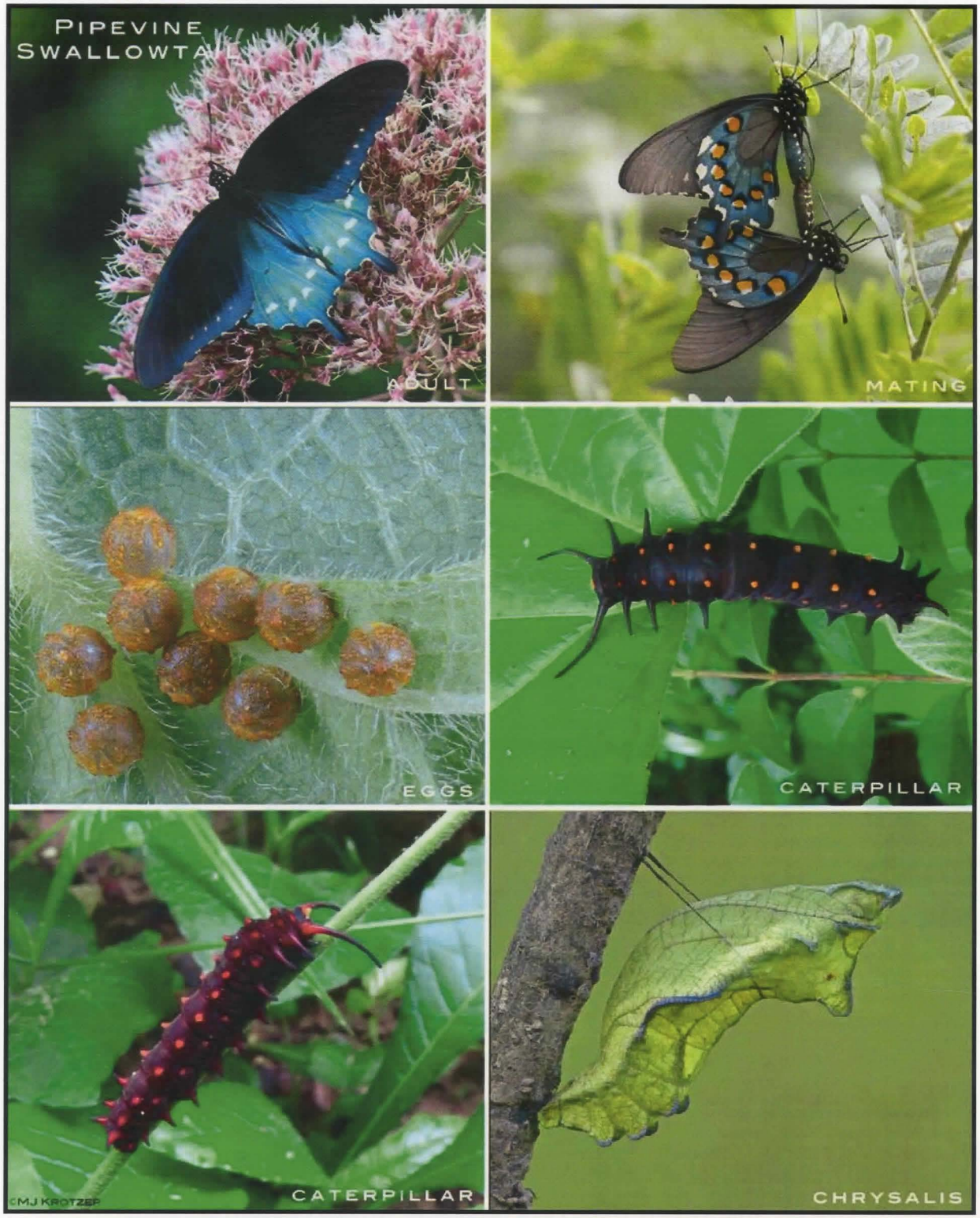

Figure 2. Pipevine Swallowtail, *Battus philenor*, Bibb and Perry counties, Alabama; Hostplants: Wooly Dutchman's Pipe, *Isotrema tomentosum*, and Virginia Snakeroot, *Endodeca serpentaria*

Figure 3. West Virginia White, *Pieris virginiensis*, McCreary County, Kentucky; Hostplant: Toothworts, *Cardamine* spp.

Figure 4. Dainty Sulphur, *Nathalis iole*, Lamar County, Alabama; Hostplant: Green Carpetweed, *Mollugo verticillata*

Figure 5. Harvester, *Feniseca tarquinius*, Bibb, Macon, and Marengo counties, Alabama; Hostplants: American Beech, *Fagus grandifolia*, and Green Ash, *Fraxinus pennsylvanica*

Figure 6. Edwards' Hairstreak, *Satyrium edwardsii*, Clay and Cleburne counties, Alabama; Hostplant: Black Oak, *Quercus velutina*

Figure 7. Texan Crescent, *Phyciodes texana*, Monroe and Perry counties, Alabama; Hostplant: Branched Foldwing, *Dicliptera brachiata*

Figure 8. Gemmed Satyr, *Cyllopsis gemma*, Bibb County, Alabama; Hostplant: Slender Spikegrass, *Chasmanthium laxum*

Figure 9. Horace's Duskywing, *Erynnis horatius*, Bibb, Monroe, and Russell counties, Alabama; Hostplant: Oaks, *Quercus* spp.

Figure 10. Ocola Skipper, *Panoquina ocola*, Baldwin, Perry, Pickens, and Shelby counties, Alabama; Hostplant: Cutgrasses, *Leersia* spp.

(Mary Jane Krotzer, E-Mail: mjkrotzer@gmail.com)

BUTTERFLIES WORTH KNOWING

BY

CLARENCE M. WEED, D. Sc.

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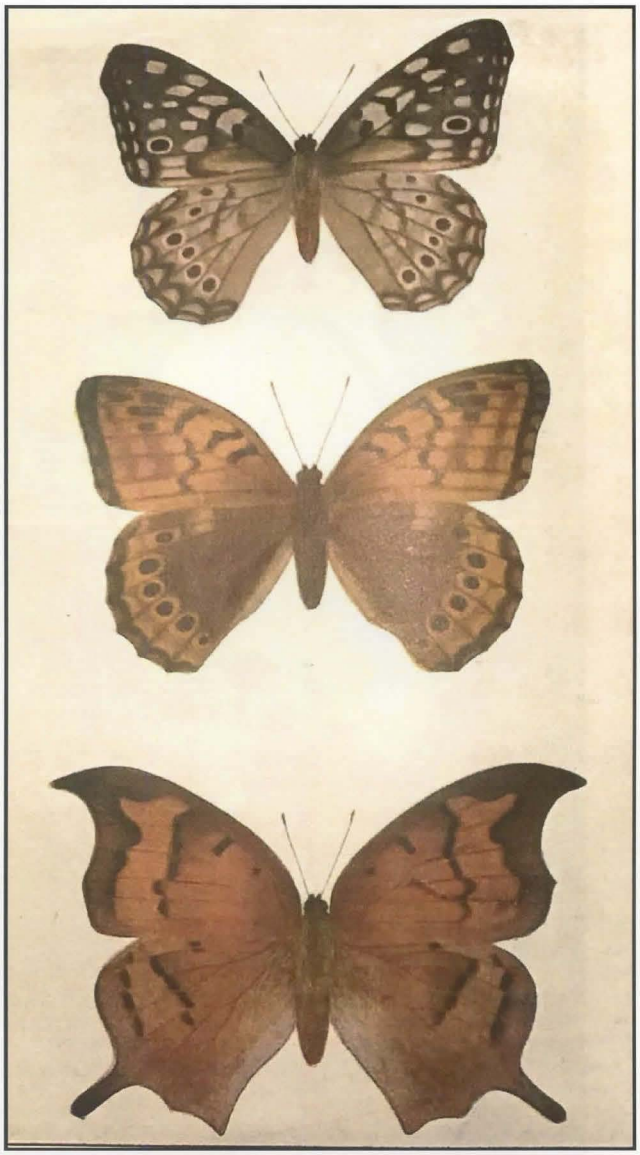
From drawings by W.I. Beecroft



THREE EMPEROR BUTTERFLIES
The Gray Emperor, female (top)
The Tawny Emperor, female (middle)
The Goatweed Emperor, female (bottom)

"*Synopsis of the Emperors*

Goatweed Emperor (*Anoea andria* or *Pyrrhanea andria*). Expanse 2 1/2 inches. Front outer angle of each front wing projecting into a falcate tip. Rear outer angle of each hind wing projecting ingto a disgtinct tail. General color burnt orange with darker marginal bands, and in the female on the upper surface other sub-margnal markings.

Gray Emperor (*Chlorippe celtis*). Expanse 2 inches, General color grayish brown with numerous markings of white and blackish. A distinct brown eye-spot on the upper suface of each front wing near the outer hind angle.

Tawny Emperor (*Chlorippe clyton*). Expanse 2 inches. General color tawny brown with markings of black and yellowish white. No distinct eye-spot on upper surface of front wings." (Page 214)

[Note: scientific names have changed over the years since published.]

A PARASITIC MITE LARVA (ERYTHRAEOIDEA: ERYTHRAEIDAE) TAKEN FROM A BLASTOBASID MOTH (GELECHIOIDEA: BLASTOBASIDAE) FROM VACA KEY, FLORIDA

BY

LAWRENCE J. HRIBAR

On 25 May 2022 a small moth was collected on Vaca Key in a light trap placed near Crane Hammock (Fig. 1). An orange mite was attached to the abdomen of the moth (Figs. 2-4). The mite was removed from the moth, and mounted on a microscope slide. The moth was pinned and sent to the Florida State Collection of Arthropods for identification.

Fig. 1. Adult female *Pigritia* specimen.

Fig. 2. First photograph of moth with mite attached.

Fig. 3. Ventral view.

Fig. 4. Lateral view; note eyespots, swollen foretarsi, and rear-directed legs of attached mite.

Moth

James Hayden of the Florida State Collection of Arthropods generously identified the moth as a female of a *Pigritia* species (Blastobasidae) (E2948-01-06142022-05408) (dissection slide #6497). Only two species of *Pigritia* are known from Florida, *P. laticapitella* Clemens and *P. murtfeldella* (Chambers) (Heppner 2003). Other species occur in the Caribbean (Walsingham 1897).

Family Blastobasidae are small, drab-colored moths without many distinguishing features. Species identification usually must be made via examination of genitalia, which is complicated by the fact that there are likely many undescribed species. There are about 300 species known worldwide and this is undoubtedly an underestimate. They are among the most commonly collected gelechioid moths in North America but probably the least known of the superfamily (Adamski and Brown 1989, Adamski and Hodges 1996). Some blastobasid moths can be pests of agricultural crops, nut trees, and nursery stock (Adamski 2000; White et al. 2005a, b).

Mite

The mite was bright orange with a single pair of red eyes, and the legs were directed backwards while it was attached to the mite host (Fig. 4). When the mite was removed from the host, it was easy to see that the mouthparts were large and appeared to be set off from the rest of the body by a constriction, and the tarsus of the first pair of legs appeared to be swollen (Fig. 5). The specimen is a larva (only three pairs of legs). The mite was mounted on a microscope slide and based on the shape of the prodorsal sclerite (triangular) (Fig. 6), a single seta on trochanters I and II (Fig. 6), and a single seta on the palpal genu and palpal femur (Fig. 6), following the characters given by Welbourn and Young (1987), I tentatively identified the mite as being in the genus *Leptus* of the family Erythraeidae. Saboori et al. (2020) provide keys to the species of the world fauna of *Leptus*. The specimen will be deposited into a museum collection at a later date.

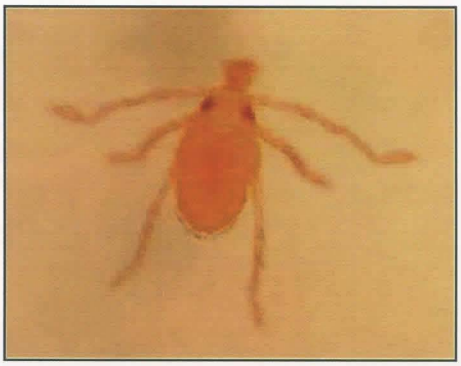


Fig. 5. Detached mite in clearing solution.

Fig. 6. Mouthparts and dorsal shield of mite

Adler and Brown (1986) studied the tufted apple bud moth (*Platynota idaeusalis* (Walker), Tortricidae) in West Virginia. They collected male moths in pheromone traps and found that erythraeid mites (*Callidosoma metzi* Sharma, Drooz, and Treat) most often attached to the moth at the intersegmental membranes between the metathorax and the first abdominal segment or between the first two abdominal segments. Most mites attached at the pleuron, rather than at the dorsum or venter. Adler and Brown (1986) examined only male moths but erythraeid mites will parasitize both sexes of moths (Houseweart et al. 1980).

I once previously reported finding an erythraeid mite on a moth, a crambid (Hribar 2020). Adler and Brown (1986) reviewed what scanty literature there was regarding lepidopteran hosts of erythraeid mites and found records from ten lepidopteran families: Pyralidae, Tortricidae, Cossidae, Gelechiidae, Tineidae, Geometridae, Noctuidae, Notodontidae, and Lycaenidae. However, Southcott (1972) described an erythraeid mite from a satyr butterfly (Nymphalidae), which made eleven families. Treat (1975), in his tabulation of then-known records of Lepidoptera parasitized by mites, reported erythraeids from Crambidae, which raised the total to twelve families (Adler and Brown included Crambidae as a subfamily of Pyralidae). The present record is at least the thirteenth lepidopteran family parasitized by erythraeid mites. Treat (1975) speculated that Erythraeidae might be more common on microlepidoptera than on macrolepidoptera.

Nymphal and adult Erythraeidae are free-living and predaceous (Sharma et al. 1985, Welbourn 1985). Many species are heteromorphic in their life stages and very little work has been done to rear and associate larvae with nymphs and adults (Treat 1975). This has resulted in different life stages of the same mite being described as different species (Łaydanowicz and Mąkol 2010). One wonders how often this has occurred.

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(Lawrence J. Hribar, sphaeromias@lycos.com)

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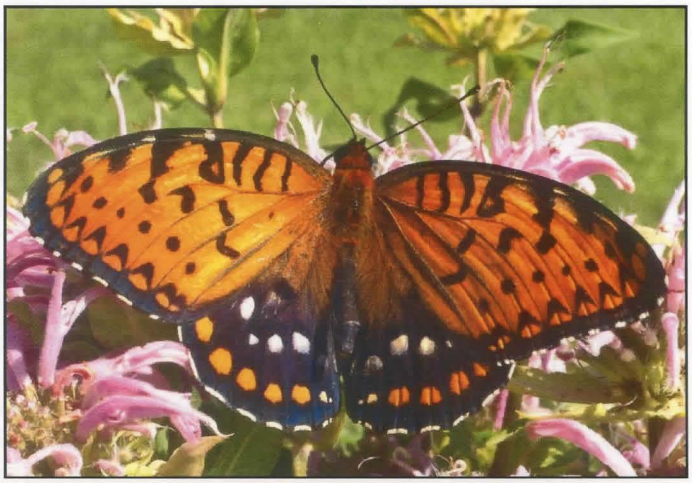
Social butterflies. Great spangled fritillary (*Speyeria cybele*), Spicebush swallowtail (*Papilio troilus*), and orange sulphur (*Colias eurytheme*) nectaring on butterfly milkweed (*Asclepias tuberosa*). Mt. Magazine, AR. June 1996. Gary Noel Ross.

Regal fritillary (*Speyeria idalia*) on pale purple coneflower (*Echinacea pallida*). El Dorado Springs, MO). June 1997. Gary Noel Ross.



Regal fritillary (*Speyeria idalia*) on narrowleaf mountain mint (*Pycnanthemum tenuifolium*). Kingsville, MO. June 1998. Gary Noel Ross.

Regal fritillary (*Speyeria idalia*), mating pair. Kingsville, MO. July 1998. Gary Noel Ross.

Group of male regal fritillaries (*Speyeria idalia*) feeding on raccoon scat. Kingsville, MO. July 1998. Gary Noel Ross.

Regal fritillary (*Speyeria idalia*) on pale purple coneflower (*Echinacea pallida*), (back lighting). Kingsville, MO. July 1998. Gary Noel Ross.

EUCLEA DELPHINII (BOISDUVAL, 1832) (LEPIDOPTERA: LIMACODIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR. AND CHARLOTTE DOZAR BROU

Fig. 1. ***Euclea delphinii*** phenotypes. males: a. April-23-1980, b. May 9-1983, females: c. March-17-2017, d. May 2-1985. From Edgard, St. John the Baptist Parish, a. From (*AESS) St. Tammany Parish, b,c,d.

The small mahogany-colored moth ***Euclea delphinii*** (Fig. 1) is one of a handful of species in the genus ***Euclea***, Hübner. Covell (1984) listed the range of ***E. delphinii*** to include Maine and southern Quebec to Florida, west to Missouri and Louisiana in May-August. Heppner (1995) illustrated the adults and the larval stages of ***E. delphinii***, addressing the 25 species of urticating caterpillars in Florida. Heitzman and Heitzman 1987 reported ***E. delphinii*** to be common in Missouri in the months May to late August, in two broods. Heppner (2003) stated the range of ***Euclea delphinii*** to include Quebec to Florida and Illinois to Texas, and in Florida during the months of January-April, June-November.

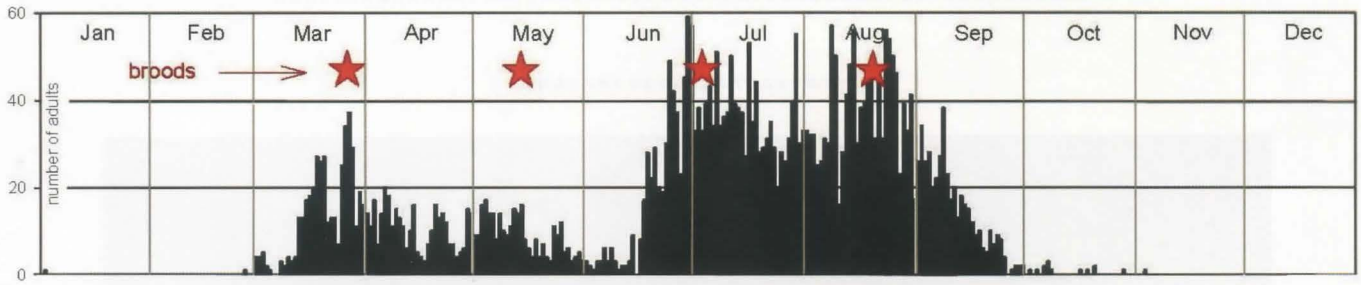


Fig. 2. Adult ***Euclea delphinii*** captured in Louisiana. n = 4,273

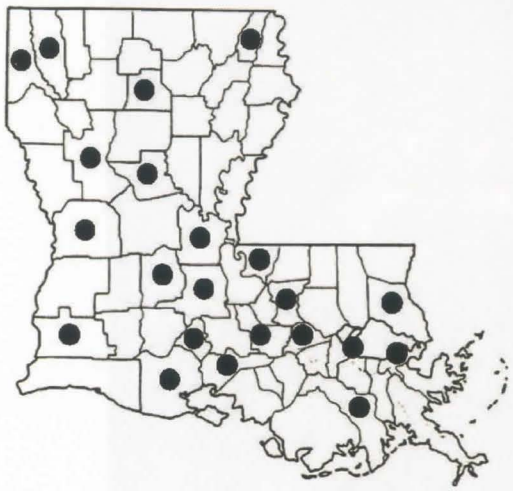


Fig. 3. Parish records for ***Euclea delphinii.***

Powell and Opler (2009) discussed the more westerly species ***Euclea incisa*** (Harvey) and the possible hybrid zone in the Midwest. In northwestern Louisiana we have captured adults of both, ***E. delphinii*** and ***E. incisa,*** and also what appears to be wild hybrids of ***E. incisa*** x ***E. delphinii***.

Profant et al. (2010) stated ***E. delphinii*** is common state-wide in Ohio, and provided an untitled phenogram the reader assumes to represent the flight period of ***E. delphinii*** adults, to include the fourth week of May to the second week of September, representing one annual brood peaking end of June – early July. These authors did not make a definitive statement concerning the number of annual broods in Ohio, leaving the reader to make their own determinations by looking at their phenogram.

In Louisiana, we captured adults of ***E. delphinii*** beginning of January through early November in four annual broods, the first brood peaking end of March and subsequent broods peaking at 49-day intervals (Fig. 2). Red stars indicate annual brood peaks. Ninety-eight percent of the adults included in the phenogram (Fig. 2) were captured at the *AESS. The parish records are illustrated in Fig. 3.

Larval foodplants found in scientific literature over the past century usually included: oaks, chestnut, beech, sour gum, blackberry, cherry, Myrica, Andromeda, and a large variety of common and abundant shrubs and trees. We

thank Marc Epstein, John Heppner and Eric Metzler for helpful assistance and critique.

*__Abita Entomological Study Site (AESS)__: *sec.24,T6S,R12E, 4.2 miles northeast of Abita Springs, Louisiana USA.*

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Wildflowers in power right-of-way. Eastern purple coneflower (*Echinacea purpurea)* is dominant species Mt. Magazine, AR. July 1997. Gary Noel Ross.

MONARCH BUTTERFLY AND NATIVE MILKWEED IN COASTAL SOUTHWEST LOUISIANA

BY

GARY NOEL ROSS

The monarch butterfly (*Danaus plexippus*) continues to generate substantial publicity among scientists, citizen scientists, and the public—especially in the southern United States. Consider the following: (1) Homeowners, who have been diligently gardening to attract monarchs, have recently been advised that the inclusion of the exotic tropical milkweed (*Asclepias curassavica*) in their gardens may be contributing to an increasing incidence of the protozoan parasite *Ophryocystis elektroscirrha* (OE) within monarch populations; (2) The monarch in July 2022 was updated on the Red List of Threatened Species of International Union for Conservation of Nature (IUCN) to "Endangered"; (3) The dominant native milkweed in coastal southwest Louisiana, green antelopehorn milkweed (*Asclepias viridis*)—the species first encountered by spring migrants returning from Mexico via crossing the waters of the Gulf, and the first potential host for initiating a new reproductive cycle—is suffering severe population declines and even extirpation over much of its former coastal range.

Most of the research conducted (primarily by yours truly) on monarchs in the coastal habitats of southwest Louisiana dates back three decades. Understandably, current researchers are unfamiliar with much of that work. In an effort to resolve the void, I have assembled here a bibliography that chronicles the majority of that past work. Today, many of these publications are carried "on line," and some may even be available from the original authors/publishers. In addition, I thought it worthwhile to include what are now historic photographs of *A. viridis* in its natural habitats in south Louisiana when the species was still thriving, and when it served as an early spring (March/April) host by migrating monarchs returning from their Mexican overwintering sites. In addition, I have included images of monarchs using the chenier habitat in autumn as a jumping-off platform to launch their trans-Gulf migration to the eastern Gulf coast of Mexico and then beyond to the high mountains of central Mexico.

The two coastal areas in south Louisiana noted as habitat for native *A. viridis* are: cheniers (Cameron Parish) and Avery Island (Iberia Parish). Both venues are composed of sufficient dry land to support sizable trees—especially live oak (*Quercus virginiana*), and sunny meadows/fields that support abundant wildflowers, including *A. viridis*.

First, the cheniers. The word chenier is derived from a French term meaning "oak place." Cheniers are unique ancient, narrow beach ridges that parallel the modern Gulf coast in an east-west orientation. These ridges are but a few feet above sea level. Originally, covered in live oak forests, the ridges are separated by shallow marshlands. Cameron's cheniers are readily accessible to the public—especially Peveto Woods Bird and Butterfly Sanctuary, owned and maintained by Baton Rouge Audubon Society, and located just east of the community of Johnson Bayou. No longer are forests per se extant. Mature, individual trees, however, are common, often growing at the interface between terra firma and water-logged marsh. During my research in the 1990s, open venues were blanketed with spring wildflowers such as Indian blanket/blanket flower/firewheel (*Gaillardia pulchella*), Texas tickseed (*Coreopsis linifolia*)—both in the aster family. In the fall, the cheniers often boast extensive stands of Mexican devil weed/wolfweed/devilweed aster/spiny aster/spiny Chloracantha (*Chloracantha spinosa*). This fall-blooming aster is a lanky, white/yellowed perennial herb that can form extensive colonies. Because the species is salt tolerant, it is ideal for the chenier habitat. Additionally, I observed that the fall migrants, which were congregating en masse along the coast to rest each night in the oak trees and to feed during the day on the abundant wildflowers, were especially attracted to Mexican devil-weed. At the time, I hypothesized that the flowers might produce pyrrolizidine alkaloids (PAs) or cardiac glycosides (CGs), chemicals that have proven to be of extreme importance in monarch metabolism. To test my idea, I sent a sample of flowers to an organic chemist friend living in California for analysis. The sample, however, proved too small for a positive identification. And that was that.

On the other hand, Avery Island, which lies but seven miles south of New Iberia, is a salt dome that extrudes 165 feet above surrounding marshland bordering the Gulf. Because the dome is not surrounded by water, Avery is not a true island. Nonetheless, the "faux island" is the highest point of land between Brownsville, Texas and Key West Florida. The entire island of approximately 2200 acres or 3.4 square miles, is the private domain of the McIlhenny Company—especially noted for its exclusive, world renowned TABASCO® hot sauce, its botanical paradise labeled as JUNGLE GARDENS, and its historically important wadding bird rookery known as BIRD CITY). Except for touring the pepper complex, extensive gardens, and bird rookery, the remaining lands on the island are private; hence, off-limits to the public. Fortunately, in 2018-2019 I was

granted permission to conduct empirical research throughout the island (see REFERENCES, Ross, 2020).

Because both the cheniers and Avery Island are positioned directly north of the Gulf, those landmasses are subject to direct impact from tropical cyclones each summer and fall. Consequently, both venues have experienced severe wind and water devastation throughout time. But because the Cameron cheniers are but a few feet above sea level, salt water intrusion has been particularly severe over recent decades. As a result, *A. viridis* is currently rare there. (Perhaps because of a low tolerance for salt water over an extended period of days?) But there is more: Extreme wave action during the increasing number of cyclones is proving catastrophic for the entire chenier ecosystem. Simply put, the accelerated rate of erosion is returning what for the past several thousand years had been dry land, back to the domain of the Gulf of Mexico. A catastrophe of Biblical proportions, indeed!

In contrast, Avery Island is never inundated except for its extreme low fringes. As a result, *A. viridis* is locally common, found primarily in sunny, grassy locations that are not mowed more than once or twice each year. The species is a pioneer that does not tolerate crowding. But with a deep tap root, individual plants can survive occasional mowing, grazing, and burning. This type of root, however, does not tolerate transplanting well.

Dangerous weather phenomena are not new to southern Louisiana, of course. The coastal regions have been buffeted by tropical cyclones (storms and hurricanes) for centuries, perhaps even millennia. And through it all, *A. viridis* has managed to survive. Throughout my research in the early 1990s, the species was thriving. But weather patterns are now changing so rapidly in this era of a burgeoning climate crisis that the future of the plant is not certain. How this will affect monarch migration—particularly the species' trans-Gulf crossing—is anyone's guess. Meanwhile, it would behove concerned parties to encourage land owners who live directly north of these immediate coastal zones to cultivate more *A. viridis* in their cottage gardens and in nearby public spaces.

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In addition to the above, reports have appeared across the United States in various newspapers, on public radio programs, and the Paul Harvey noon-hour radio show. The subject has been featured in two television videos: "The Wonders of God's Creation" produced by the Moody Institute of Science and marketed by Questar Video, Reader's Digest Video and Publisher's Clearing House (1993), and "An Enchantment of Butterflies" produced by Louisiana Public Broadcasting (1997).

The following images have been selected from research noted in the BIBLIOGRAPHY. All images are by G.N. Ross.

STUDY SITE A: Cheniers, Cameron Parish, LA. **Figures 1-14** (originals on Kodachrome 64 Slide Film). Early 1990s.

Fig. 1. Author collecting monarchs for tagging in what was a horse pasture but here dominated by Mexican devilweed/wolfweed/ devilweed aster/spiny Chloracantha (*Chloracantha spinosa*), an abundant fall blooming aster. Field was the eastern extension to Peveto Woods Bird and Butterfly Sanctuary near Johnson Bayou, only 13 miles east of the Louisiana-Texas border. Green antelopehorn milkweed (*Asclepias viridis*) was locally abundant amongst the asters. November 1991.

Fig. 2. *A. viridis* thriving along mowed roadside on Monkey Island, a small non-inhabited landmass across from the City of Cameron, and reachable only by ferry. Plant was abundant along road traversing the small island. May 1993.

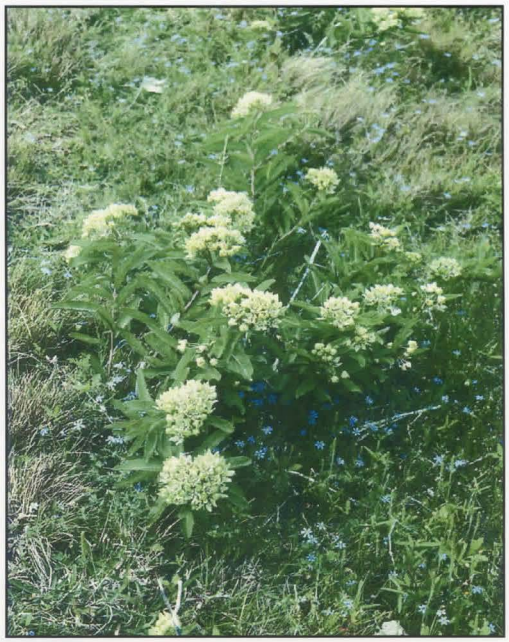

Fig. 3. Healthy clump of *A. viridis* along roadside on Monkey Island. May 1993.

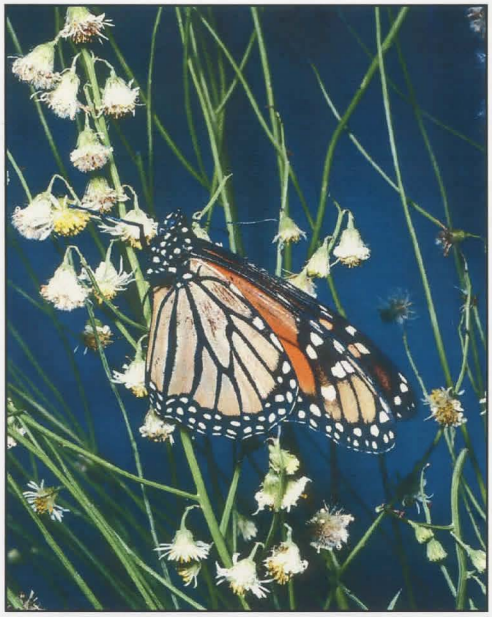

Fig. 4. Close-up of female monarch (*Danaus plexippus*) nectaring on *Chloracantha spinosa*. November 1991.

Fig. 5. Close-up of flower head of *A. viridis*. Peveto Woods Bird and Butterfly Sanctuary near Johnson Bayou. May 1993.

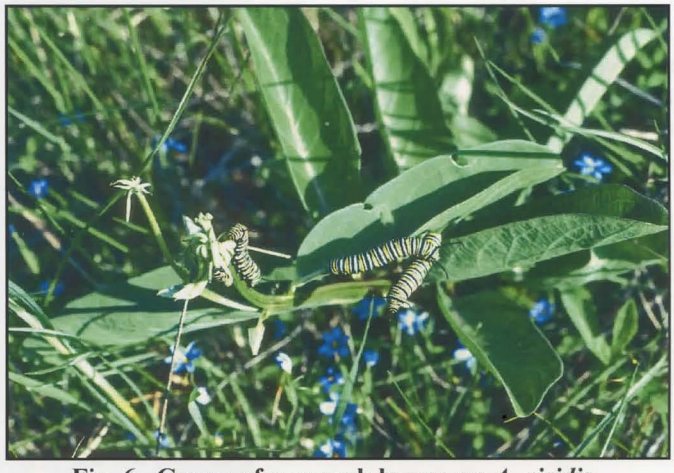

Fig. 6. Group of monarch larvae on *A. viridis*. Peveto Woods Bird and Butterfly Sanctuary, April 1993.

Fig. 7. Close-up of mature larva of monarch feeding on *A. viridis*. Peveto Woods Bird and Butterfly Sanctuary. April 1993.

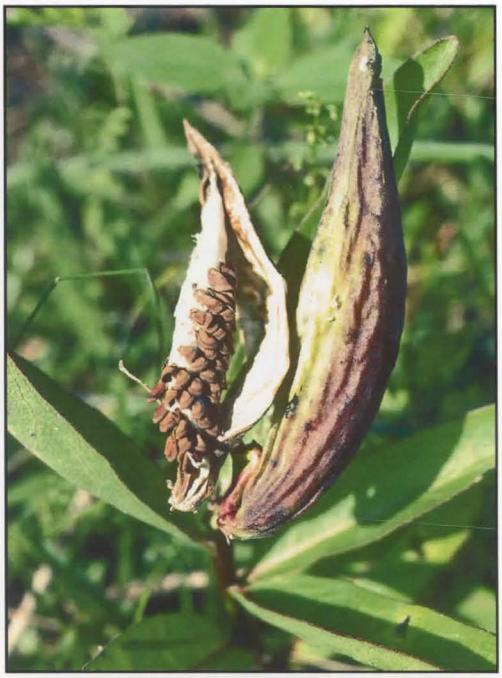

Fig. 8. Seed pod of *A. viridis* indicating double arrangement—as with an antelope. July 1991.

Fig. 9. Seeds with their silk-like plumes being freed from their pod. July 1991.

Fig. 10. Frost damage to *A. viridis*. Species is a freeze-sensitive perennial endowed with a deep tap-root. One monarch larva (center left) remains on plant. November 1991.

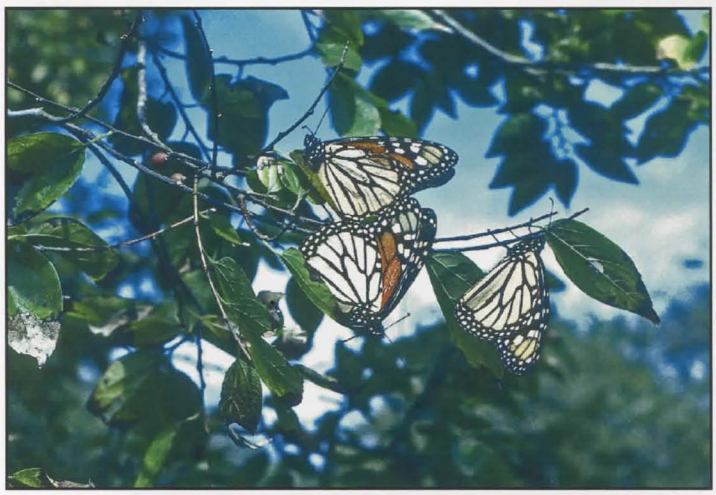

Fig. 11. A pair of monarch butterflies mating in a hackberry/sugarberry tree (*Celtis laevigata*). October 1990.

Fig. 12. Frost damage to a specimen of *A. viridis* still supporting several viable monarch larvae (center left). November 1991.

Fig. 13. Mature larva of Queen butterfly (*Danaus gilippus*), a monarch cousin that is relatively uncommon on the cheniers. Species was never abundant, but always encountered, and therefore, considered a breeding resident. November 1991.

Fig. 14. Recently emerged adult male of *D. gilippus* resting on seed pods of *A. viridis*. November 1991.

STUDY SITE B: Avery Island, Iberia Parish, LA. **Figures 15-22** (digital originals). March-April 2018 and 2019.

Fig. 15. A worn spring migratory monarch (*Danaus plexippus*) nectaring on naturalized bull/yellow thistle (*Cirsium vulgare*). Summit of Prospect Hill (165 feet above sea level). View is to the north, across marshland and toward mainland. April 22, 2019.

Fig. 16. Native green antelopehorn milkweed (*Asclepias viridis*) growing amongst colony of native prairie nymph (*Herbertia lahoe caerulea*), iris family, in a resident's mowed field. Routine mowing encourages browsing deer. April 12, 2018.

Fig. 17. *A. viridis* on Prospect Hill. April 22, 2019. View is to the north across the marsh to the mainland. April 2019.

Fig. 18. *A. viridis* and mature monarch larva in mowed field, private property. April 12, 2018.

Fig. 19. Colony of *A. viridis* on Prospect Hill in a depression that escapes frequent mowing. April 22, 2019.

Fig. 20. Colony of *A. viridis* in a mowed field dominated by seeding bull/yellow thistle. April 22, 2019.

Fig. 21. *A. viridis* thriving in a field periodically mowed to maintain access to underground gas pipeline. May 31, 2018.

Fig. 22. *A. viridis* (center, lower right) and *H. lahoe caerulea* (scattered) in a resident's frequently mowed field dominated by mature live oak (*Quercus virginiana*). Periodic mowing encourages browsing by local "McIlhenny deer" (*Odocoileus virginianus mcilhennyi*), a diminutive Gulf-coast subspecies of the larger white-tailed deer. Deer are abundant but avoid feeding on milkweed. April 22, 2019.

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Additional photographs related to this article are on pages 292, 300, and 304.

TARACHE APRICA (HÜBNER, 1808) (LEPIDOPTERA: NOCTUIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR. AND CHARLOTTE DOZAR BROU

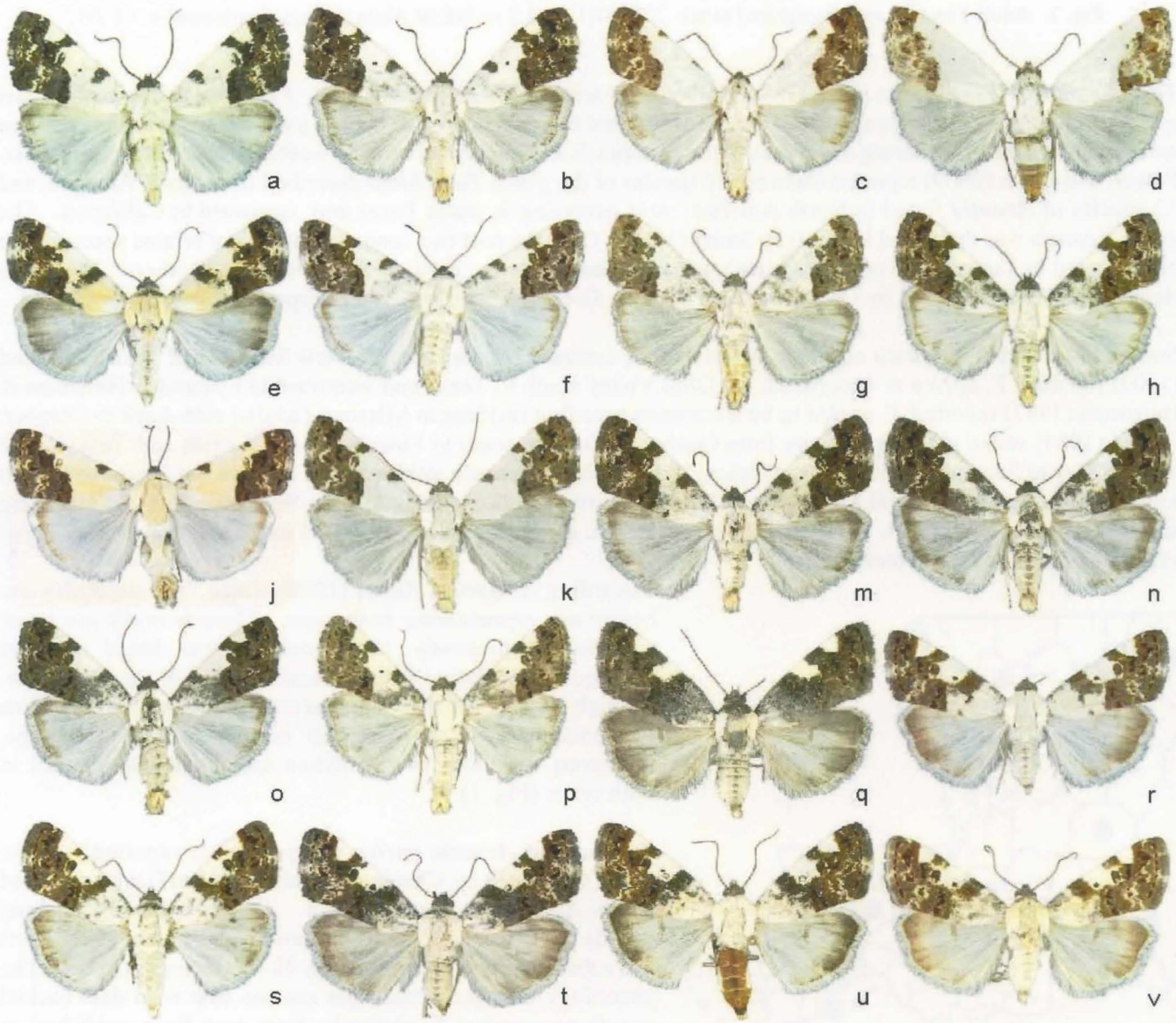

Fig. 1. ***Tarache aprica*** phenotypes, **St. Tammany Parish**, *AESS, Abita Springs: **males**: **a**. 2010 June 10, **b**. 2011 May 22, **c**. 1998 June 26, **d**. 1998 June 3, **e**. 2010 August 5, **g**. 2010 July 15, **h**. 2011 April 2, **k**. 2011 May 11, **m**. 2011 March 28, **n**. 2011 April 20, **o**. 2011 April 19, **p**. 2011 May 20, **females**: **q**. 2011 May 12, **r**. 1984 May 17, **s**. 2010 June 6, **t**. 2011 April 20, **u**. 2011 May 25, **v**. 1984 May 17, **St. John the Baptist Parish,** Edgard**: males**: **f**. 1982 April 20, **j**. 1979 June 14.

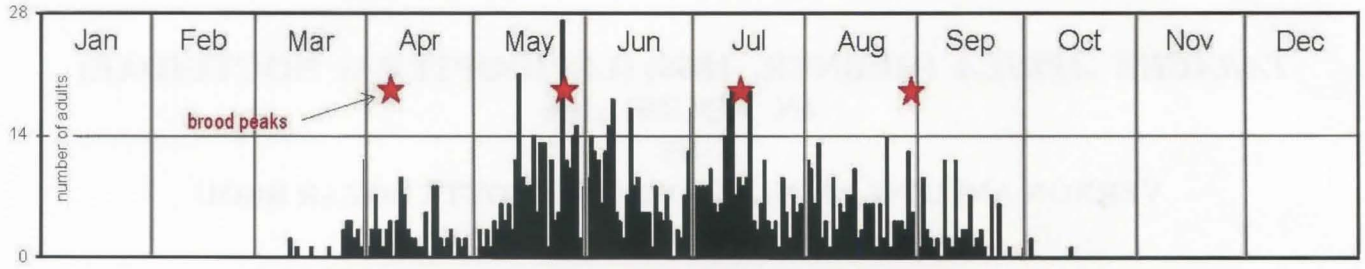

Fig. 2. Adult ***Tarache aprica*** captured at sec. 24T6SR12E, 4.2 mi NE of Abita Springs, Louisiana. n = 1.,092

Tarache aprica (Fig. 1) was originally described as ***Noctua aprica*** Hübner, 1808. For more than a century this species remained in the genera ***Acontia*** and ***Tarache,*** and more recently still in both today. This is a very common and abundant species occurring over much of the eastern US and is reported to occur westward to southern California. Powell and Opler (2009) reported there are 20 species of the genus ***Tarachidia*** described from North America, and 32 species of ***Acontia*** found in North America, most occurring in states Texas and westward to California. The genus ***Acontia*** was discussed in detail by Smith (1900). Over the past two centuries, dozens of related species have been treated by numerous workers as members of ***Noctua***, ***Acontia***, ***Tarachidia, Tarache***, and others. The genus ***Acontia*** was first proposed by Ochsenheimer (1816) in Die Schmetterlinge von Europe IV.

Smith (1900) stated ***A. aprica*** occurs in Pennsylvania, central Missouri, Florida, New Mexico and Texas. Holland (1903) reported ***T. aprica*** to occur from the Ohio Valley south to Texas and westward to Colorado. Heitzman & Heitzman (1987) reported ***T. aprica*** to be a common breeding resident in Missouri (adults) mid-April to October. Covell (1984) stated ***A. aprica*** occurs from Quebec to Ontario south to Florida west to Kansas and Texas in the months May to September. Powell and Opler (2009) reported ***Acontia aprica*** from Colorado and West Texas, east to Illinois and south to central Mexico and Florida, occurring in two broods April to September without providing any actual phenology proofs. Heppner (2003) reported ***A. aprica*** to occur Quebec to Florida and Colorado to Texas in the months March to September.

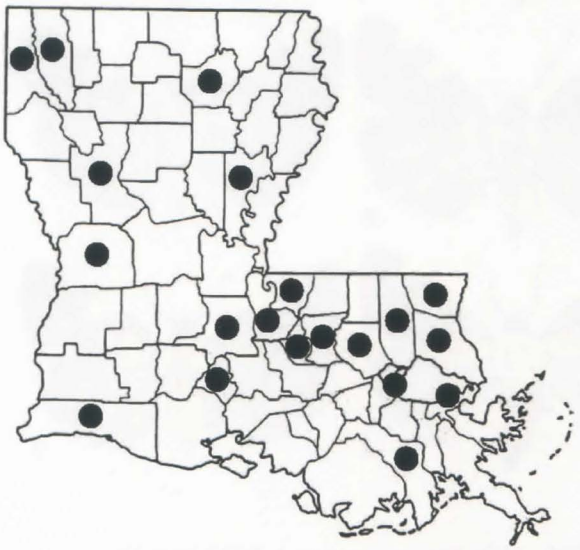

Fig. 3. Parish records for ***Tarache arica.***

Regarding ***A. aprica***, Smith (1900) stated "*Ten examples are before me, representing both sexes. There is really not much variation*". Apparently, his assessment was based upon an inadequate population sample, because this is not at all the case. Though we have actually captured tens of thousands of ***T. aprica*** in Louisiana over the past half century in UV light traps, numerous variations in maculation are abundantly evident in both sexes (Fig. 1).

In Louisiana ***Acontia aprica*** was previously reported by Hine (1906), and also by Chapin and Callahan (1967) who recorded adults April 11 to November 16. ***T. aprica*** has four annual broods in Louisiana. The initial brood peak occurs early April and subsequently at approximately 48-day intervals (Fig. 2). The phenology data presented here are the first wild data-backed proofs concerning ***T. aprica*** to have ever been published in scientific literature. This indicates previous phenology statements in earlier literature are at best unverified anecdotal assumptions. The parish records in this study are illustrated in Fig. 3.

Note. *Ferdinand Ochsenheimer* (17 March 1767 – 2 November 1822) was a German actor and lepidopterist. He was responsible for the creation of many new genera in the Linnaean Lepidoptera system including publications among others, 'Die Schmetterlinge von Europa' vols. 1-5. Leipzig. source Wikipedia

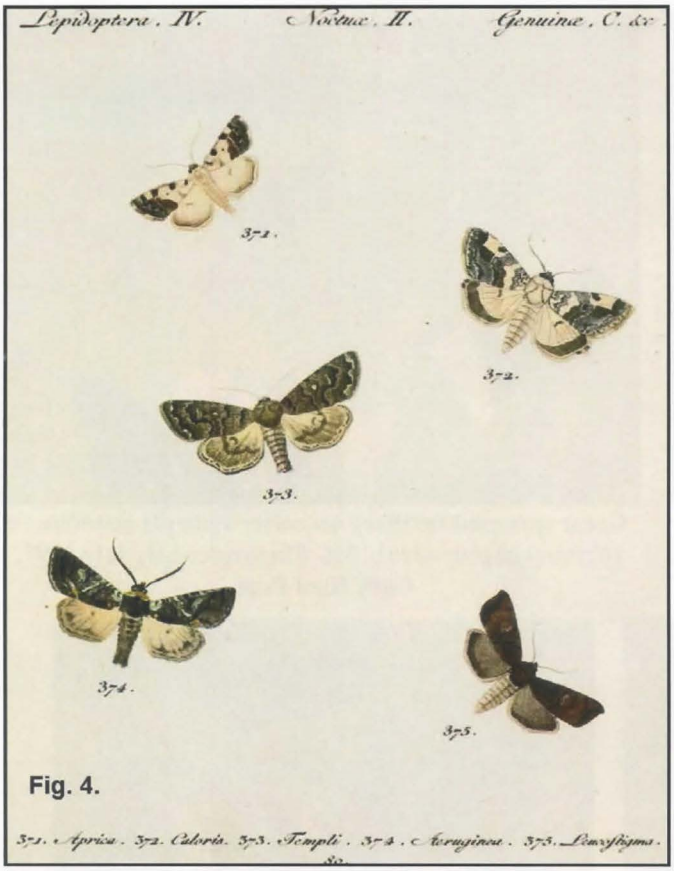

Fig. 4. Plate illustrating ***Noctua aprica*** Hübner, #371 in Sammlung europäischer Schmetterlinge (plate cropped and age-related yellowing in original removed).

Fig. 5. Jacob Hübner circa 1790.

Note. *Jacob Hübner*, (June 20, 1761 September 13, 1826, Augsburg) (Fig. 5). Early in life, he was a designer and engraver at a cotton factory in the Ukraine. As a German entomologist, he described many new genera and new species. Interestingly, Hubner's earlier efforts were published inadvertently as many of his works were self-published during his life, and some even appeared after his death. Many of his publications appeared over years in sections (late 1700s to early 1800s), some without dates, and this led to subsequent confusion in classification, but later the International Commission of Zoological Nomenclature accepted all of Hübner's works as valid taxonomic publications (sourceWikipedia). Fig. 5. Historical image, multiple web sources. We thank Ricky Patterson for helpful review and comments.

****Abita Entomological Study Site***: sec. 24,T6S,R12E, 4.2 miles northeast of Abita Springs, St. Tammany Parish, Louisiana USA.

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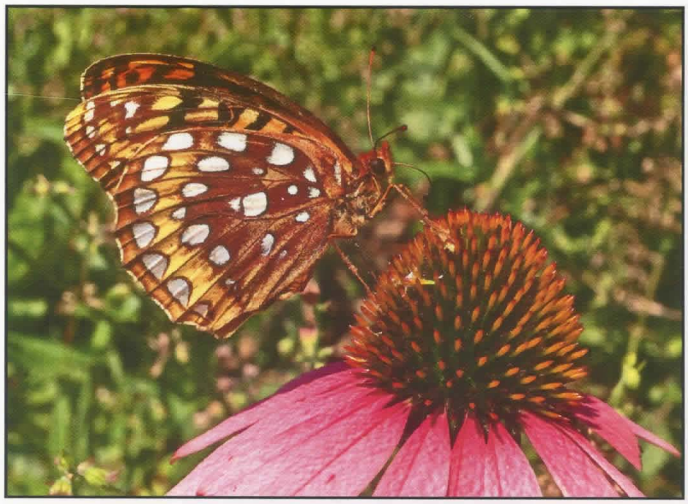
(Vernon A. Brou Jr. and Charlotte D. Brou, 74320 Jack Loyd Road, Abita Springs, Louisiana 70420 USA: E-mail: vabrou@bellsouth.net)



Great spangled fritillary (*Speyeria cybele*) on pale purple coneflower (*Echinacea pallida*). Kingsville, MO. July 1997. Gary Noel Ross.

Great spangled fritillary on eastern purple coneflower (*Echinacea purpurea*). Mt. Magazine, AR. July 1997. Gary Noel Ross.

Social butterflies. Great spangled fritillary (*Speyeria cybele*), monarch (*Danaus plexippus*), and silver-spotted skipper (*Epargyreus clarus*) nectaring on prairie ironweed (*Vernonia fasciculata*). Mt. Magazine, AR. June 1996. Gary Noel Ross.

Painted lady (*Vanessa cardui*) (3) on prairie ironweed (*Vernonia fasciculata*). Mt. Magazine, AR. August 1992. Gary Noel Ross.

Social puddling. Eastern tiger swallowtail (*Papilio glaucus*), spicebush swallowtail (*Papilio troilus*), and summer azure (*Celestrina ladon*) on wet sand. Otto, NC. Sept. 1996. Gary Noel Ross.

A SWEET VISITOR

BY

LINDA BARBER AULD, NOLA BUGLADY

The addition of a new assortment of native plants has invited a surge of garden critters who have, to my delight, accepted my invitation to visit my flower buffet. In a little plot of land measuring six foot square, plants were packed inside to see how they would grow together. Side-by-side native and non-natives were selected as a test to witness which plants attracted more resident insects (Fig. 1).

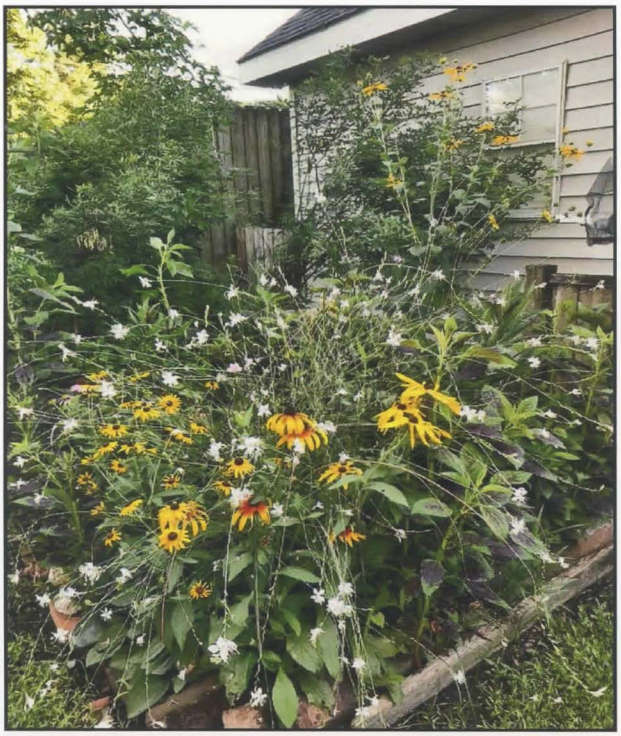


Fig. 1 BugLady's garden by Linda Barber Auld

Natives:
Bee Blossom: *gaura*
Black-eyed Susan: *rudbeckia hirta*
Cardinal flower: *lobelia cardinalis*
Greyhead prairie coneflower: *ratibida pinnata*
Hooker's Eryngo: *eryngium hookeri*
Mexican Hat: *ratibida columnifera*
Orange coneflower: *rudbeckia fulgida*
Purple coneflower: *echinacea*
Rosinweed: *silphium gracile*
Sneezeweed: *helenium autumnale*
Standing Cypress: *ipomopsis rubra*
Sweet coneflower: *rudbeckia subtomentosa*

Non-natives:
Celosia: "Flamingo feather"
Ruellia
Zinnia

A wide variety of pollinators such as honey bee, bumblebee, carpenter bee, leaf-cutter bee, potter wasp, red wasp, cuckoo wasp, paper wasp, and the two-spotted longhorn bee have enjoyed the nectar from the flowers. One day I spotted an ambush bug perched atop the purple coneflower as it waited for its next meal. Assassin bugs wander around the foliage pursuing something to eat. A group of red-shouldered bugs, who normally are found feeding on seed pods of the golden-rain tree, have recently chosen the coneflower pollen as an alternative since the rain tree hasn't flowered yet this year. A big fat toad also happily resides in the corner of the bed under a decorative rock.

The sweet coneflower has been one of the star performers. It grew a tall, impressive main stalk which branched out into 8 stems that sprouted an average of 5 beautiful flowers per stem. The luxurious yellow flower petals are long and thinner resembling false eyelashes. To my dismay, the stem could not handle the weight of the flowers so they began to fall over and break off. I decided to just cut them and enjoy a bouquet in a vase on my bath counter. As I was brushing my teeth, I noticed a little bump on the brown center of one of the flowers. What was this?..

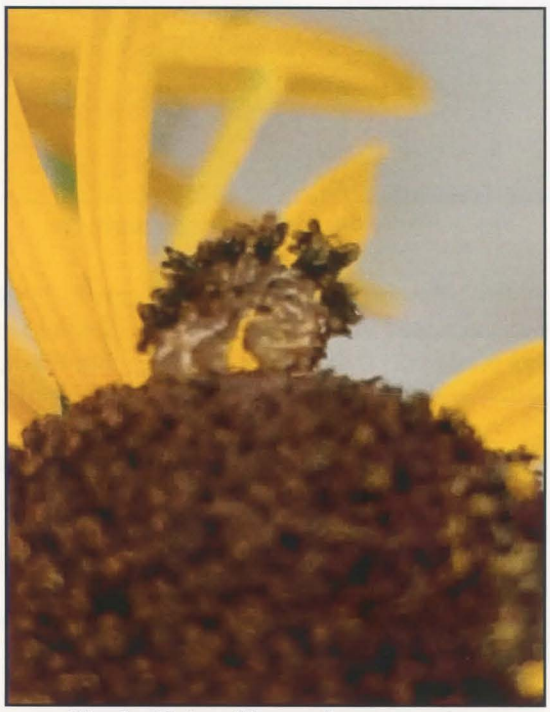


Fig. 2. Caterpillar on brown center mimicking the seedpod

Upon closer inspection, I discovered a tiny looper caterpillar with pieces of the brown coneflower center sewn to its body as camouflage (Fig. 2). It's the wavy-lined emerald! This Mardi Gras caterpillar is out of costume only after a molt. The larva fashions its disguise by attaching plant bits (usually flower

petals which it has chewed free of its foodplant) to its back in hopes of avoiding detection (Fig. 3).

It occurs in fields and other open habitats from Canada to Georgia and Texas. Four generations can be cycled from April into October and it overwinters as a larva. They feed on a wide variety of plants, including the flower heads of composite flowers and other flowering plants, as well as shrubs and trees. Recorded food plants are: ageratum, aster, black-eyed susan, boneset, daisy, erigeron species, coreopsis, goldenrod, liatris, ragweed, yarrow, birch, blackberry, rose, St. John's wort and others.

For the next three days it continued to eat the brown center then moved on to the yellow leaves. As you can see in Fig. 3, this critter also had a younger brother or sister sharing the flowers. Not knowing where it would decide to pupate kept me spellbound. Since I had the flowers in water, I was worried it would need to go underground. But it continued its mimicking behavior by resembling the seedpod in Fig. 4.

Fig. 3 Three days later with younger one

[All Photos by Linda Barber Auld.]

Fig. 4 Pupal stage

When I suspected it to be an emerald, I googled: how many different emerald moths and found the ButterflyIdentification.org website. It is a Lepidoptera group with butterfly, skipper and moth pictures, containing 614 images in the database and 493 are moths. You can refine the search results by state and by color. There are 417 moth species listed for Louisiana. I was surprised to find six species of Emerald moths in our state. They are 1) the red-fringed, *Nemoria bistriaria*, 2) red-bordered, *Nemoria lixaria,* 3) Southern, *Synchlora frondaria*, 4) white-fringed, *Nemoria mimosaria,* 5) showy, *Dichorda iridaria, and* 6) wavy-lined, *Synchlora aerata.*

FYI, this article got its name because the caterpillar ate sweet coneflower. Stay curious because that is how we learn!

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

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A SOUTHERNER IN CHEESEHEAD COUNTRY (OR, IF THAT IS A RED-DISKED ALPINE, I MUST BE IN WISCONSIN)

BY

CRAIG W. MARKS

A couple of years ago I wrote a story about a trip to NE Minnesota, and the trials and tribulations of "chasing butterflies" in the bogs of that region [Southern Lepidopterist News, Vol. 43 No. 1 (2021)]. First, to be clear, there is no such thing as "chasing" butterflies in those bogs. Any movement by me was both slow and ponderous, with a very real and constant danger of toppling over. Although that trip was a success in that I was able to see the trip's target butterflies, I did not envision going "bog slogging" again anytime in the near future.

Last year, in late June, I made a trip up to central Wisconsin. With the help of Ron Arnold, Bob Harden (an equally avid butterflier from Arkansas) and I were able to see many unique northern butterflies such as Two-spotted Skippers (*Euphyes bimacula*), Hickory Hairstreaks (*Satyrium caryaevorum*), Black Dash Skippers (*Euphyes conspicua*), Harris Checkerspots (*Chlosyne harrisii*), Mulberry Wing Skippers (*Poanes massasoit*) and many others. Ron took us to a couple of bogs where we saw Bog Coppers (*Lycaena ephixanthe*) along the road. I can honestly say I had no desire to wade out into the actual bogs as the memory of the previous year's efforts was still too fresh.

While in Wisconsin, I questioned Ron about a couple of other Northern butterflies I wanted to see, Red-disked Alpines (*Ereba discoidalis*) and Hoary Elfins (*Callophrys polios*). I learned that both were spring fliers, and that the Red-disked Alpine could be found in the bogs of both NW Wisconsin and NE Minnesota. Despite the probable need to go bog slogging again, I started researching locations and the proper timing for a future trip. Kyle Johnson, who had been so helpful in making suggestions for my 2020 trip to NE Minnesota, again gave me numerous suggested locations as did Jeff Belth. The result was a return trip to Wisconsin and Minnesota at the end of May 2022.

On 5/29/22, I flew into Minneapolis at noon where Bob picked me up (he had driven up and had already done some butterflying with Ron Arnold around Wisconsin Rapids). I had hoped to go to Crex Meadow in Wisconsin that first afternoon, but Bob had just come from there that morning, and the weather was not good. So, we went to Fish Lake, part of the Cedar Creek Nature Preserve, north of Minneapolis. The weather was warm (in the 80's), windy and mostly cloudy. We saw a few butterflies such as Silvery Blues (*Glaucopsyche lygdamus*) and American Coppers (*Lycaena phlaeas*), but also witnessed an irruption of literally thousands of Spiny Baskettail dragonflies (*Epitheca spinigera*) along the lakeshore. They clearly had just eclosed and were hanging by the hundreds from the branches of every bush and small tree. As we moved passed, they would fly out in mass, surrounding us in a cloud of shimmering wings. I had never seen such an irruption involving dragonflies.

Spiny Baskettail Dragonflies
(Photo by Bob Harden)

Based on continuous weather forecast checks, we decided to go east into NW Wisconsin rather than north into NE Minnesota. Ultimately, Bob and I decided to spend our time primarily in the Riley Lake State Natural Area due to inclement weather elsewhere and warnings from Kyle Johnson that the Floodwood area in Minnesota (one of his other suggestions) had high water levels. In her article, "Butterflies to log in and near Northern Wisconsin's Bogs," Ann Swengel identified the Riley Lake area as a good location for finding Frigga and Freija Fritillaries along with Red-disked Alpines from mid-May to early June. In an e-mail to me, Kyle Johnson had referred to that location as,

"One of the best WI sites for Red-disked Alpine, Freija Fritillary, Frigga Fritillary, and others. Easily accessed from roads traversing the site. The best area is around here: 45.81804°N, 90.16378°W. This is where multiple types of bog/fen habitats converge. Red-disked Alpines and Freija Frits often puddle on the road. If Frigga is flying they're usually in the shrubby bog birch-bog willow fen sections adjacent to this point, so prepare for difficult walking (if you're lucky you might get one on the road, but that's not common)."

Within the Chequamegon-Nicolet National Forest in Price County, Riley Lake Wildlife Area is owned by the US Forest Service and was designated a State Natural Area in 2007. It features a vast peatland complex characterized by a large, continuous bog and spruce muskeg community. Cotton grass, leatherleaf, bog rosemary, and bog laurel dominate the bog, which grades into a black spruce and tamarack swamp. Sharp-tailed grouse are present here (Bob and I saw one on the 30th). The shallow, 184 acre lake is reported to contain northern pike, along with other game fish.

Bob and I worked three bogs in the Riley Lake area Monday (the 30th), Tuesday (the 31st) and Thursday (6/02). Monday was warm (in the 80's) but very overcast, particularly in the morning. It cleared a little in the afternoon. Tuesday was very sunny but extremely windy with gusts up to 30 mph. Temps were in the high 60's, low 70's. The butterflies were out but only in places protected from the wind. Thursday was sunny in the morning with temps climbing into the low 70's but it clouded up quickly at about 1:00, with scattered rain. Our problem on Thursday was that a road grader was grading the two roads we were working with the effect of grading over the good, damp spots that were attracting the butterflies.

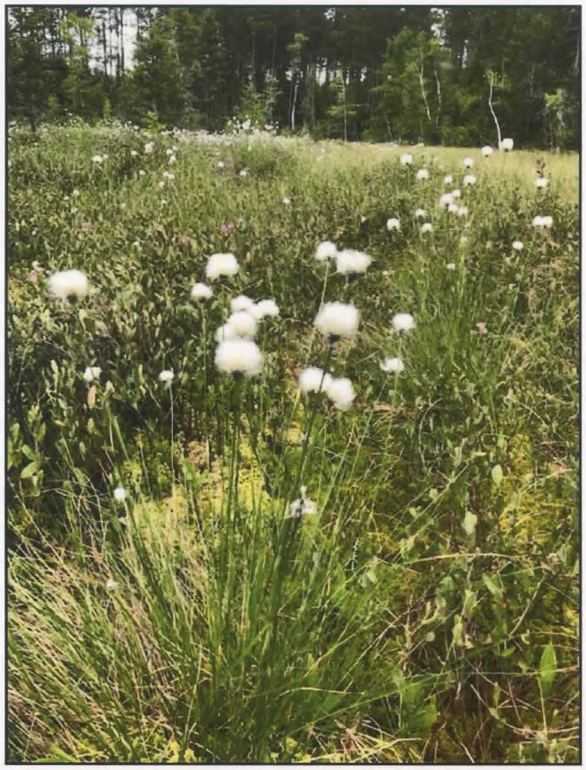
As stated, we primarily worked 3 bogs (although we did stop multiple places b/t the bogs at wet spots in the road). The biggest bog was on Gates Lake Rd (FR 136), less than a mile after turning right off of Hemlock Road. The middle bog was on Riley Lake Rd (FR 137), and the smallest bog was about one mile further down 137, toward its intersection with Hwy 70.

While much of our time was on the roads through those bogs, I did venture out into all three bogs all three days. I found the effort less extreme that back in 2020 for several reasons. First, the bog was right next to the road so I could walk in a few hundred feet then walk right back out. Second, there were fewer trees in these bogs which resulted in significantly fewer downed branches and tree trunks to navigate over and around. The flies were present, but I was better prepared this time with heavy duty insect repellant. The gnats were not nearly as bad, probably due to the constant breeze. Finally, the temperatures were more tolerable. I only fell twice, much less often than in 2020.

Larger bog on Gates Lake road

Smaller bog on Riley Lake Road and walking in that bog

The white "flowers" in the bogs were actually blooming cotton grass. Well named as the blooms are actually balls of puffy cotton-like material, Cotton grass is the known larval food plant of the Jutta Arctic. It is also one of the suspected larval foodplant of the Red-disked Alpines (according to Neilson, Red-disked Alpine caterpillars have been raised on it in captivity). There were significantly more easily accessible stands of cotton grass at these bogs than found at the 2020 locations.



Cotton grass

We ended up seeing 27 species over the 5 days Bob and I were together. I was able to see both of my main targets, Red-disked Alpines and Hoary Elfins. Per Ann Swengel, in "The fascinating butterflies of Northwestern Wisconsin Bogs," Northern Wisconsin is at the "warmest edge" of the Red-disked Alpine's range. Recorded across the northern portion of Minnesota, the upper peninsula of Michigan and northern Wisconsin, this alpine is primarily restricted to large peat lands, usually grassy ones. It is single brooded with a flight of about 2 weeks. According to Reese's website, it is probably more common than records suggest, the limited existing records possibly impacted by habitat that is not easily accessible and the short, spring flight period.

Basically, a dark brown butterfly with rounded wings about the size of a Buckeye, it possesses a large reddish patch in the center of upper wing, both dorsally and ventrally, thus the name. The sexes are similar. The larval food plants have been reported to be blue grasses, sedges and cotton grass. Several guides report it prefers sap flows and animal matter over flowers, but there are reports that it will occasionally visit Labrador tea. It is also known to puddle.

Swengel described its flight pattern as "fluttery… above the bog vegetation," "relatively brief" in duration before it lands in the grass again. Others described its flight as a "distinctive slow bobbing flight" (Weber), "weak, slow-flying with ragged flight pattern a few feet above the ground" (Douglas) and "fluttering resembling a Common Wood Nymph" (Patterson). The males patrol, and it is reported to be active in the mornings and late afternoon. According to Swengel, it is occasionally found in "swarms" with multiple individuals in flight at once in the same vicinity. She describes it as a, "very sedentary butterfly" and "with an extreme flight response to fright."

The Red-disked Alpines were at Riley Lake. The first one was seen Monday on the road at the middle bog. Two more were seen on Tuesday, one along the road at larger bog and one that crossed the road at the middle bog. The last two were on Thursday, chasing each other across the road at the larger bog. One re-crossed the road into the main bog so I went in after it, only to flush it deeper into the bog, never to be found again. Getting photographs was a difficult task because no sooner was one seen in the road than it had crossed and was into the bog where, as I indicated, there was no chase to be made.

On Tuesday, we connected with two fellow butterfliers (as well as expert birders) from Arkansas, Samantha and Dan Scheiman. Sam was raised in Wisconsin, and each year they try to make a trip back up to see her family and to do some northern butterflying and birding. It turned out they were in the area, so they met us at the larger bog Tuesday afternoon. They were skilled enough to photograph a Red-disked Alpine down in the grass while they out walking in the smaller bog on Wednesday.

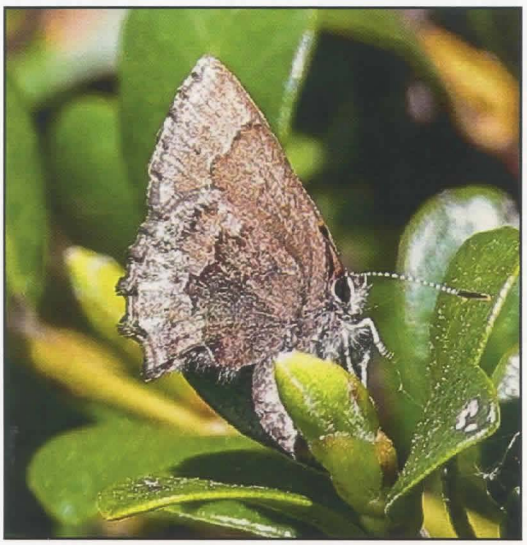
On that Wednesday, Bob and I drove up to Moquah Barrens State Natural Area to look for Hoary Elfins (seen there the day before by Sam and Dan). The Hoary Elfin is the smallest elfin in the region (the others being E. Pine, Henry's, Frosted and Brown). Referring to two of Ann Swengel's articles, "The Delightful Diversity of Butterflies at Cres Meadows" and "The Beguiling Butterflies of the Jackson County Pine-oak Barrens," the Hoary Elfin is reported to be "locally abundant" in northern Wisconsin with a flight range from Apr 26 to May 26. It is single brooded. Ann further described it to be, "strongly tied to bearberry."

Red-disked Alpine (Photo by Samantha Scheiman)

Reese's website indicated it has been recorded from 15 counties in Wisconsin, mostly the northern portion of the state. It is also present in the upper peninsula and northern portion of the lower peninsula of Michigan as well as the northeast corner of Minnesota (where it is reported to be intermittent). Reese characterized it as "mainly a northern butterfly" and rarely found far from bearberry. It is mainly brown; however, the outer margin of VFW and outer half of VHW are hoary gray. Douglas reported that it prefers pine barrens and sunny locations in dry, sandy or rocky habitats within open oak-pine forest. Other reported habitats include edges of bogs and lakeshores. Douglas indicated that males perch and bask laterally during day, often on the foodplant. Its flight pattern is low to the ground. Per Weber, adults visit flowers such as bearberry, blueberry, wild strawberry, pussy-toes as well as mud.

The Moquah Barrens is part of the Chequamegon-Nicolet National Forest and is located in Bayfield County. The designated area is owned by the U.S. Forest Service and was designated a State Natural Area in 1970, and the Pine Barrens are dominated by jack and red pine as well as red oak, red maple, trembling aspen, large-toothed aspen, and white birch. The habitat includes large openings dominated by blueberry and bearberry to rather dense stands of jack pine and aspen. Within the understory can be found serviceberry, dewberry, sweet fern blueberry, hazel, honeysuckle, and sand cherry.

We primarily worked the area around the entrance to that Natural Area (where there was a small gravel/dirt parking area), but also drove FR 242, an ATV trail off of 242, and around Horseshoe Lake. We saw big numbers of Dreamy (*Erynnis icelus*) and Juvenal's Duskywings (*E. juvenalis*), as well as Meadow Fritillaries (*Boloria bellona*), on the atv trail in areas where the road had damp edges. Back at the entrance area we found 11 Hoary Elfins and 7 E. Pine Elfins (*Callophrys niphon*), mostly very fresh. A couple of the Hoary Elfins were seen on/around its larval foodplant, bearberry. The rest were landed on the dirt of the parking area. Back at Riley Lake, on Monday and Tuesday, we had seen numerous Brown Elfins (*Callophrys augustina*) (20+ each day) around the larger and middle bogs, yielding a total of three elfin species for the trip.



Hoary Elfin
(Photo by Bob Harden)

E. Pine Elfin
(Photo by Bob Harden)

Brown Elfin (Photo by Bob Harden)

Bob was able to photograph several other northern bog specialists. On Monday, at the larger bog, we had a Freija Fritillary (*Boloria freija*), and then on Tuesday, there were two Frigga Fritillaries (*Boloria frigga*) at that same bog, essentially in the same area where the Freija had been seen. I saw 2 lesser fritillaries on Monday that I couldn't identify, one along the road at the larger bog and one out in the middle bog (that flew past me at warp

speed). Tuesday, I saw two more I could not identify at the larger bog and then one more there on Thursday. Dan found another Freija Fritillary at the larger bog on Wednesday.

Frigga Fritillary (Photo by Bob Harden)

Freija Fritillary (Photo by Dan Scheiman)

Back in 2020, one of my targets on that trip were Jutta Arctics (*Oeneis jutta*). Several were seen so I really hadn't given much thought to seeing more on this trip. That species turned out to be one of the most common butterflies seen with nine seen on Monday, one on the road at the middle bog, one out in the middle bog and the others out in and along the tree-line bordering the smaller bog. We then saw 8 on Tuesday, one out in the middle bog, one on the road between the middle and smaller bog and the others at the smaller bog (but actually within the treeline between the road and that bog, probably staying out of that day's significant winds. Finally, Bob and I saw 15+ on Thursday, all at the smaller bog. I also saw a very fresh Hoary Elfin along the edge of that bog.

Jutta Arctic
(Photo by Bob Harden)

We saw multiple Arctic Skippers (*Carterocephalus palaemon*) during the three days at Riley Lake, primarily at the larger and middle bogs. Dreamy Duskywings were abundant. Two Harvesters (*Feniseca Tarquinius*) were on the road at the larger bog, as well as a Green Comma (*Polygonia faunus*), the first I have seen in almost 20 years. Fresh Canadian Tiger Swallowtails (*Papilio canadensis*), 10+ seen each day, were cruising up and down the roads at and between the bogs while multiple Mourning Cloaks (*Nymphalis antiopa*) puddled along those roads. There were several Black-banded Orange Moths (*Epelis truncataria*) flying on the road, mostly at the larger bog but with some at the middle bog. Also, there was a very pretty and intricately patterned, small white moth flying in several places at Moquah Barrens, identified by others as Blueish Spring Moths (*Lomographa semiclarata*). They were quite common in places, flying with Dreamy Duskywings.

Black-banded Orange Moth
(Photo by Bob Harden)

Blueish Spring Moth
(Photo by Bob Harden)

As I put the finishing touches on this article, about two months after its conclusion, I am thankful the trip was much less physically taxing than my 2020 trip to NE Minnesota. Working along the roads through the bogs, with multiple but brief excursions out into the bogs, was a much more effective (and enjoyable) method of execution. In fact, at the end of each day I was able to get in an evening run, something I was not able to do in 2020.

As a result of my trips to this unique region of the country I had the distinct pleasure to meet and interact with several very friendly and knowledgeable fellow butterfliers. Despite those new friendships, after four visits to the region since 2017, I'm not sure if or when I might return. Next year I want to go to Alaska, and then after that Oregon and/or Washington. That said, even if I don't return in the near future, the time spent in northern Minnesota and Wisconsin has left me with memories of people, butterflies and special locations that will not soon fade.

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http://www.wisconsinbutterflies.org

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

BUTTERFLIES WORTH KNOWING

BY

CLARENCE M. WEED, D. Sc.

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DOUBLEDAY, PAGE & COMPANY
for
NELSON DOUBLEDAY, Inc.
1925

From a drawing by Mary E. Walker

THE ZEBRA BUTTERFLY
Heliconius Charitonius
On orange leaves and blossoms. (Reduced)

[Note: scientific names have changed over the years since published.]

"One of the most notable things about this insect is the fact that the male butterflies are attracted to the chrysalids of the females even before the latter emerge. Many observers have reported upon this curious phenomenon and have recorded experiments demonstrating that it is a general habit with the species.

The Roosting Habits

The adult butterflies flock together at night and rest upon the Spanish moss which festoons so many of the trees in the Far South, or upon dead branches. They take positions which heads upward and wings closed, many of them often flocking together to roost, and wandering out to the near-by fields when the morning sun gives them renewed activity. But these butterflies are essentially forest insects. Reliable observers have noticed that when one emerges form a chrysalis it flies up in the air and makes straight for the nearest woods. Others have noticed that when a butterfly in a field is alarmed it also makes for the woods. And in the regions where the species is abundant the butterflies are most likely to be found in paths and glades in the forest. Thus they show the influence of their ancestral habitat in the tropical wilderness." (Page 231)

REARNG *PENESTOLA BUFALIS* (CRAMBIDAE)

BY

JAMES E. HAYDEN AND KEVIN M. BURNETTE

We have maintained a colony of *Penestola bufalis* (Guenée) for most of the past year. It took more time than expected, and we owe a report of our observations. This species could serve as a "lab rat" for experiments, as they can be reared on standard soy-wheat germ diet, rotten leaves, and some kinds of succulent, fleshy plants.

The caterpillars naturally feed on rotting leaves and organic matter in the black mangrove (*Avicennia germinans*) zone of coastal swamps in the Caribbean region. The species is related to *Duponchelia fovealis* Zeller, the "European pepper moth," which is invasive in the U.S. *Penestola, Duponchelia*, and a couple of other genera of steniine spilomeline crambids in the Old World comprise a natural group and are saprophagous, living in coastal swamps. The larvae inhabit the intertidal zone and can survive immersion in water for several hours. We call them "muck" or "mud moths." They also readily feed on succulent vegetable matter if offered. This facultative behavior has allowed *D. fovealis* to become a pest in the plant trade, spreading from its native range in the Mediterranean Region to plant nurseries globally, including Florida (Brambila and Stocks 2010, CABI 2020). The caterpillars feed on the stems of many ornamental plants, such as kalanchoe, or low-growing strawberry leaves (Zawadneak et al. 2016). With woody plants such as roses, *Duponchelia* caterpillars tunnel in the potting soil, which frustrates control by conventional pesticides (Messelink and van Wensveen 2003). They thrive in wet places of nurseries with excessive irrigation (pers. obs.). We wanted to examine this behavior in a related native species that would not pose the regulatory issues of *D. fovealis*, such as the need for containment facilities.

Moths of *P. bufalis* are easy to differentiate from *D. fovealis*: the forewings of the former are shades of plain brown, whereas the latter has white lines and gray ground color. The larvae of *P. bufalis* normally have separate D2 pinacula on the eighth abdominal segment (Fig. 18; uncommonly, they may be connected by a narrow band), whereas the same pinacula in *D. fovealis* are broadly fused (Fig. 17).

In August 2021, JH discovered a population of *P. bufalis* at Cedar Key, the northernmost known population on Florida's Gulf Coast. The moths were flitting about the mangroves in an area of swamp owned by the University of Florida at the corner of 3rd and A Streets, where UF has a walkway to a dock (Figs 1, 2). JH had last collected them as larvae in 2012 in Vero Beach, a much farther drive from Gainesville, so here was an opportunity with a closer population.

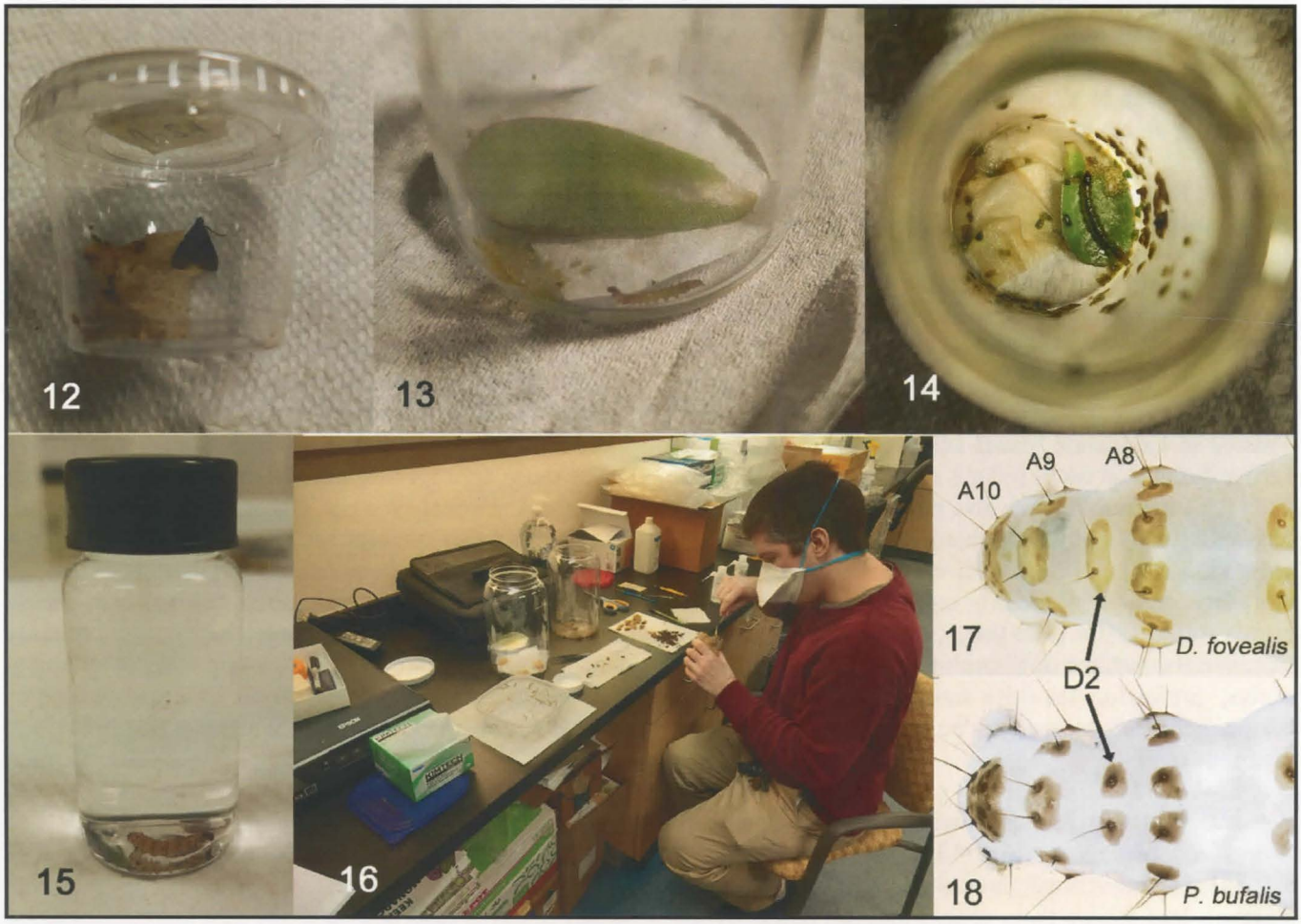
Swinging a net in a mangrove swamp is not easy. The net caught fiddler crabs climbing on the branches (Fig. 3), but only a few moths, all males. There were leaves and wood rotting on the mud, but unlike at Vero Beach, the leaf pack was not thick enough to yield any larvae. Frass-like granules in wood turned out to be termite damage. So, JH next tried cages baited with vegetable matter. They were closed rectangular boxes of wire mesh with ¼ inch holes, filled with green pepper or fruit, and staked in the mud in the intertidal zone (Fig. 4). These did not work either. In the first attempt in September, the traps sat for two weeks, after which the vegetables had been devoured and no caterpillars were found. Whether or not *Penestola* larvae were involved, we suspect that amphipods, flies, or very small crabs entered the mesh and helped eliminate the bait. Setting the traps out for three days in October filled with bell pepper or celery did not lure any larvae, although the vegetables stayed intact.

What worked in the end was simply to scoop up a pile of mangrove leaves that had accumulated on the wooden walkway; we did that on October 3rd, 2021. We laid the leaves in a tray in an emergence cage and collected *Penestola* moths as they emerged (Fig. 5).

Incidentally, a few other moths emerged from the leaves. There were a few dancing moths (*Dryadaula terpsichorella* (Busck)) and one *Acrolophus walsinghami* (Möschler). The latter species is invasive in Florida and very abundant in urban areas, but despite that, we do not know any unquestionable rearing records. We had recently collected four of them on a Jackson (sticky) trap at the site. Its emergence from rotting leaves gives a clue about what it is doing. We also collected moths at the site representing a northern record of *Blepharomastix achroalis* (Hampson), which may also be associated with mangrove habitats, although its host is unknown.

We kept the colonies in one-gallon plastic jars (Fig. 6). Closed jars without mesh holes maintained high humidity. It was a challenge to find the balance between moisture and desiccation while avoiding mold. Ammonia-producing decay eventually became more of a problem in the fourth and fifth generations. A handier, more inventive person could make many improvements. On the bottom, we laid a Kimwipe tissue, some soy and wheat germ diet (BioServ), and a few rotten leaves from

1. **Walkway to UF-IFAS dock on Cedar Key.**
2. **Black mangroves with pneumatophores.**
3. **A curious fiddler crab in the butterfly net.**
4. **The ingenious but unsuccessful attempt with baited cages.**
5. **Emergence cage with rotting leaves and a vial with a moth on top.**
6. **Gallon jar of F1 with leaves and the vials in which moths were captured.**
7. **F4 moth starting F5 generation.**
8. **Male *Penestola bufalis*, showing angular foveae on wings.**
9. **Kimwipes with larvae and frass.**
10. **Larvae being transferred to clean jar.**
11. **Diet cups with emerging moths.**



12. An eclosed female moth.
13. Second or third instar with leaf of purslane, transparent near base where the larva has consumed the parenchyma.
14. Fourth or fifth instar destroying purslane.
15. Larva submerged in water.
16. KB transferring caterpillars to clean jar.
17. Abdominal segments 8–10 of *Duponchelia fovealis* fifth instar larva, dorsal aspect, with fused D2 pinacula indicated.
18. Same for *Penestola bufalis*, with separate D2 pinacula.

the swamp or a compost heap (Fig. 7). We added the leaves in hopes of stimulating mating and as a supplementary food source for larvae. A piece of cotton soaked with blue Gatorade prolonged the moths' adult lives.

Into each jar, we introduced two female and one or two male moths. One can sex them on sight because males, like *D. fovealis*, have a fovea on the forewing (Fig. 8). Female *P. bufalis* readily dump eggs on plastic surfaces. They would lay eggs in a day or two, which turned red with the developing embryo. Neonates hatched after seven to ten days. Larvae would find the food on the bottom of the jar, or else we moved them onto plant matter with a fine paintbrush. We did not record the number of instars, but the total development time is consistent with five instars. After hatching, larvae could be left in the jar unattended for several days. We removed leaves that became moldy. Now we had a ready source of caterpillars of all stages; they grew at uneven rates, so that final-instar larvae could be in the same jar as third instars (Figs 9, 10). We witnessed cannibalism on two occasions, and we saw a few dead, collapsed larvae in every jar that may have been further victims. Therefore, we separated a few larvae from every jar to ensure their survival. We took a variable number of larvae out of each jar and put them individually into separate 1oz lidded plastic cups, or "diet cups". These contained a bit of food, 2cm of Kimwipe, and a small perforation in the lid to allow air exchange (Fig. 11).

This let us easily record and track the dates of pupation and eclosion of individuals (Fig. 12). In addition, this also made it easier to introduce adult moths to start the next generation by simply dropping in a lidless diet cup containing an emerged moth into the jar.

We tried feeding them a few things. Two larvae that we put in commercial potting soil (brand not recorded) did not survive. We were most interested in rearing them on plants in the order Caryophyllales, because we wanted to provide them as non-target test subjects for FDACS-DPI's parasitoid rearing experiments. For this, we put them in screwcap 25mL vials with a small square of Kimwipe and a piece of food. Young larvae placed on squares of kalanchoe leaves survived for 7 to 11 days before dying. Neonates did not consume spinach leaves from the supermarket. We also put them on cut cubes of beaverstail or prickly pear cactus (*Opuntia* spp.). They grew slowly up to the fourth or so instar with heavy mortality, caused by feeding on decayed tissue, as the cactus rotted faster than they could consume it. They trenched the surface or tunneled into the 1cm cubes of cactus, preferring the less mucilaginous tissue. The boring behavior seemed to be incidental rather than instinctive.

We had the most success with leaves of purslane (*Portulaca oleracea*) (Fig. 13). The younger instar caterpillars cannot break through the waxy epidermis, so tearing a leaf allows them access into the parenchyma. Older instars certainly have no such difficulty. We reared a few on purslane to pupation and successful eclosion. We gave most of them to FDACS-DPI's cactus-moth parasitoid rearing program, so we did not try to keep a colony on purslane through multiple generations. It might have been possible with enough plant material, but artificial diet was more practical. The mature larvae would quickly turn a leaf into wet frass (Fig. 14). Daily cleaning was unnecessary, but we cleaned out vials filled with excessive frass.

One reason why we reared them on Caryophyllales was to see how they could survive on semi-succulents, which are popular ornamentals on which *D. fovealis* also feeds. Another reason was to supply pyraloid larvae fed on appropriate plants to present to *Apanteles opuntiarum* wasps. This is a parasitoid of the invasive cactus moth, *Cactoblastis cactorum* Berg, and before it may be released in the Nearctic, it must be tested to ensure that it will not attack native moths that are related or have similar habits. FDACS-DPI has already tested the wasps with *Melitara* species (Pyralidae) and pest moths from suppliers. Since feeds on some plants related to Cactaceae, such as kalanchoe and purslane, we predicted that *P. bufalis* would do the same. The wasps oviposit in caterpillars feeding inside *Opuntia* cladodes (Awad et al. 2019), so they might respond to plant chemical cues released by damage or frass from the caterpillars. Portulacaceae is closely related to Cactaceae (Nyffeler 2007) and therefore might present similar cues. The more pyraloid species tested, the better the scientific case for releasing the wasps. Preliminary results are that *P. bufalis* suffered no parasitism by *A. opuntiarum*, with no difference in mortality or emergence rates between test subjects and controls (N. Benda, pers. comm.).

We also wanted to test their ability to survive submersed in water. When the tide comes in (the highest cycle being about 12 hours), we surmised that the larvae either could survive directly in water or else would find air pockets in the leaf pack. We used distilled water from the lab; seawater from the original swamp would have been more appropriate, but we did not budget time to drive to the coast. We put 4th or 5th instars in 25mL vials without air bubbles for 1h, 2h, 4.5h, and 12h (n = 4 each) (Fig. 15). Afterward, we put them back on diet and let them develop. Adult moths eclosed from larvae submersed for 12 hours. Thus, they could probably survive direct submersion in a swamp without having to find aerial refuges in the substrate. Proper experiments should follow the example of Warren et al. (2011).

The life cycle is about 55 days, counting 31.5 weeks from when we set up the first F1 jar on Oct. 17, 2021 to the first F5 jar May 24, 2022 and dividing by four generations. We recorded the time from the first observation of eggs in a jar to the first neonates, and for individual larvae in diet cups, we recorded the time for pupation. We estimated development time of larvae by subtracting the other two values from 55 days. Ova take 7 to 10 days to hatch, pupation takes 9 to 15 days, and thus the larvae take 30 to 39 days. We did not consistently record the longevity of the adult moths, because we put them into new mating jars as soon as they eclosed. However, some individuals survived at least seven to ten days, given the cotton swab of Gatorade. We preserved a few specimens of pupae and many specimens of larvae and pinned adult moths, including a few parents of some jars (where the moths had finished ovipositing and were still alive or recently dead). Specimens are deposited in the Florida State Collection of Arthropods, housed in the McGuire Center (University of Florida, Gainesville, FL). We maintained the colonies into the fifth generation.

We terminated the F5 jars of larvae on July 2nd, 2022, keeping mature larvae to pupate and yield adults to pin. Care and maintenance of the colony takes a lot of time, with daily inspection at some points, and sometimes emergency cleaning and transfer to a new jar (Fig. 16) if things go wrong. Even so, the larvae are fairly hardy, tolerant of high humidity and fungal growth. A colony could be optimized to feed only on rotting leaves (the natural situation) or on certain vegetable matter.

We leave many questions unanswered. First, our rearing methods need improvement. The challenges are to give larvae enough space, balance humidity without mold, and eventually get to a setup where the larvae can be checked weekly instead of daily. A two-week hiatus was possible for early instars, but the need to secure the next generation led to isolating older larvae and checking them daily. Their development times reared on different substrates should be compared, especially on rotten leaves and a wider variety of potting soils. Host-choice tests on these different things should also be done. We have not tested the behavior and metabolism of *P. bufalis* when immersed in seawater. It is also an open question why *P. bufalis*, and its congener in Florida, *P. simplicialis* (Barnes & McDunnough), are seldom collected inland from swamps. One *P. bufalis* was recently collected by a McGuire Center survey along an old canal at the DeLuca Preserve near Yeehaw Junction, but such finds are exceptional. Finally, feeding on more economically important hosts should be done to ensure that *P. bufalis* would pose no risk to the nursery trade. Our finding that it does not survive on kalanchoe is promising but preliminary, limited by small sample size. On the other hand, the caterpillars certainly do well on purslane. Other succulents or semi-succulents should be tested to ensure that these do not surprise us like *D. fovealis* did.

Acknowledgments

Thanks to the McGuire Center Special Projects Lab for giving us space, and to FDACS-DPI for other support. We thank Jeff Slotten (FSCA Research Associate), Kristin Rossetti (University of Florida), Julieta Brambila (USDA APHIS), Nicole Benda (FDACS-DPI), and Paul Skelley (FDACS-DPI) for constructive comments and improvements for this article.

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(James E. Hayden, Kevin M. Burnette, FDACS-DPI, 1911 SW 34th Street, Gainesville, FL 32605;
james.hayden@fdacs.gov, kevin.burnette@fdacs.gov)

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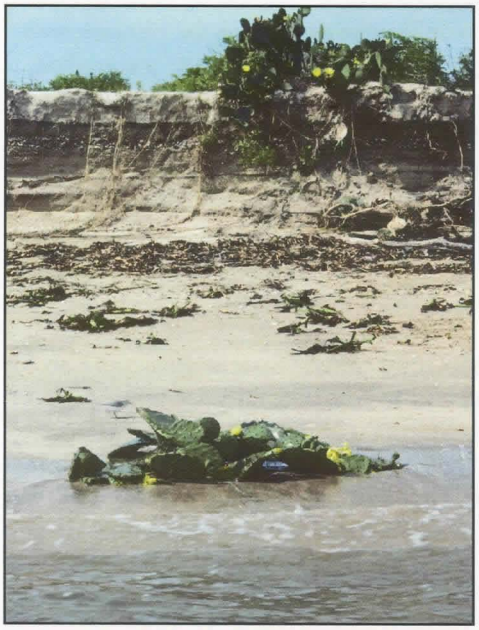

Hackberry Ridge (chenier). Erosion of Opuntia cactus on sand. Chenier uninhabited. Cameron Parish. LA May 1991. Gary Noel Ross.

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Constance Beach (chenier). Erosion of summer resort community. Two streets paralleling beach were previously reclaimed by Gulf. Cameron Parish, LA. April 1991. Gary Noel Ross.

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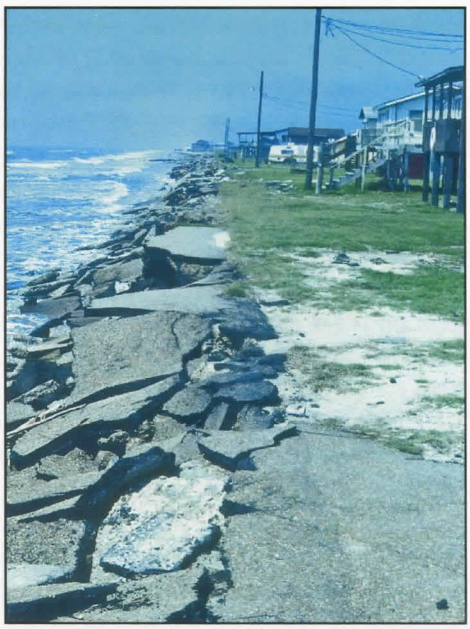


Hackberry Ridge (chenier). Erosion of trees at southern side. Cameron Parish, LA. May 1991. Chenier uninhabited. Gary Noel Ross.

These 3 photos by Gary Noel Ross are connected to his article (pages 265-272): *"Monarch Butterfly and Native Milkweed In Costal Southwest Louisiana*" in this issue.

NOTE: The English word **chenier** is derived from the French chênier ("place of the oaks") and rooted in chêne ("oak"). A **chenier** is a sandy or shelly beach ridge that is part of a **strand plain**, called a "chenier plain." A **strand plain** is a broad belt of sand along a shoreline with a surface exhibiting well-defined parallel or semi-parallel sand separated by shallow swales. A **swale** is a low or hollow place, especially a marshy depression between ridges.

Additional photos defining the habitat discussed in Gary N. Ross' article are on pages 300 and 304.

PHOTOS OF NEW MOTHS OBSERVED AT TRINITY RIVER NWR (MAY 1, 2022 TO JULY 31, 2022)

BY
STUART MARCUS

NOCTUIDAE *Spragueia guttata* (Spotted Spragueia)

NOCTUIDAE *Ponometia erastrioides*
(Small Bird Dropping Moth)

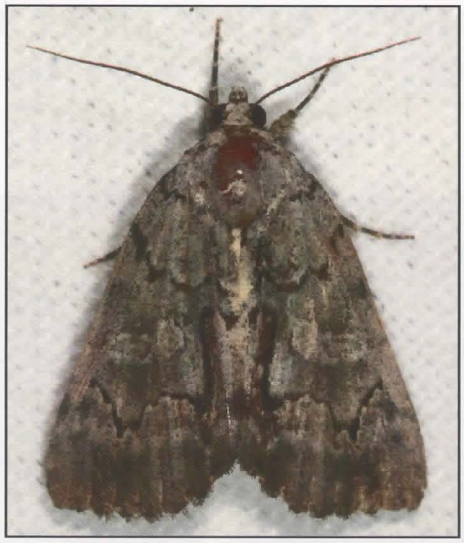
TORTRICIDAE *Epiblema tripartitana*
(Tripartite Epiblema)

PYRALIDAE *Dioryctria amatella*
(Southern Pine Coneworm)

TORTRICIDAE *Pandemis limitata*
(Three-lined Leafroller)

GELECHIIDAE *Coleotechnites australis*

TORTRICIDAE *Cenopis diluticostana*
(Spring Dead-leaf Roller)



EREBIDAE *Catocala grynea*
(Woody Underwing)

TORTRICIDAE
Unknown *Cenopis*

NOCTUIDAE
Protodeltote muscosula
(Large Mossy Lithacodia)

←

CRAMBIDAE
Hellula rogatalis
(Cabbage webworm)

→

LYONETIIDAE *Leucoptera erythrinella* (Coral Bean Leafminer)

(Stuart Marcus, E-Mail: stuart.marcus13@gmail.com)

BABY LEPS
A PHOTO ESSAY (PART 3)
BY
BRYAN E. REYNOLDS

Here's the last installment of photo essays about lep behavior. The last five issues of the SLS News had essays about courting leps, mating leps, ovipositing leps, and baby leps. This issue showcases a continuation of baby leps (Part 3). Where possible, I always try to get the larval plants identified. Also, while I try to photograph an egg that has just been freshly laid, sometimes I opt to chase the female doing the ovipositing for more photos of *that* behavior. Because of this, I'm not always able to photograph the exact egg I witnessed being deposited. For all of the other immature life stages, I photograph those as I come upon them, sometimes while specifically looking for them, or sometimes they're just random encounters. I hope you enjoy the series.

Purslane Moth, *Euscirrhopterus gloveri*, larva, Albuquerque, Bernalillo County, New Mexico, 21 August 1999

Leconte's Haploa Moth, *Haploa lecontei*, larva feeding on Blackjack Oak, *Quercus marilandica*, freshly emerged leaves in spring, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 11 April 2020

Snowberry Clearwing, *Hemaris diffinis*, caterpillar, central Oklahoma, Cleveland County, Oklahoma, 10 September 2017

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Vine Sphinx, *Eumorpha vitis*, caterpillar, Bentsen-Rio Grande Valley State Park, Hidalgo County, Texas, 28 October 2014

→

Luna Moth, *Actias luna*, larva, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 28 September 2018

Owlet Moth, *Stiria* sp., (left) and Emerald Moth, *Synchlora* sp., (camouflaged with flower debris) larvae feeding on Maximilian Sunflower, *Helianthus maximiliani*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 2 October 2020

Rustic Sphinx, *Manduca rustica*, larva feeding on Pink Morning Glory, *Ipomoea carnea*, Norman, Cleveland County, Oklahoma, 16 September 2021

Tersa Sphinx, *Xylophanes tersa*, larva, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 30 September 2018

Charred Dagger, *Acronicta brumosa*, larva on Blackjack Oak, *Quercus marilandica*, McGee Creek Wildlife Management Area, Atoka County, Oklahoma, 6 October 2018

Corn Earworm, *Helicoverpa zea*, larva feeding on Sneezeweed, *Helenium amarum*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 25 September 2020

Unexpected Cycnia, *Cycnia collaris*, larva feeding on Orange Milkweed, *Asclepias tuberosa*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 24 May 2020

Unexpected Cycnia, *Cycnia collaris*, larva on Green Milkweed, *Asclepias viridis*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 11 May 2017

Unexpected Cycnia, *Cycnia collaris*, larva on Orange Milkweed, *Asclepias tuberosa*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 17 July 2013

Unexpected Cycnia, *Cycnia collaris*, larva feeding on Orange Milkweed, *Asclepias tuberosa*, Packsaddle Wildlife Management Area, Ellis County, Oklahoma, 30 May 2021

Unexpected Cycnia, *Cycnia collaris*, larva on Green Milkweed, *Asclepias viridis*, John H. Saxon Park, Norman, Cleveland County, Oklahoma, 19 September 2017

Unexpected Cycnia, *Cycnia collaris*, larva on Common Milkweed, *Asclepias syriaca*, Tallgrass Prairie Preserve, Osage County, Oklahoma, 15 June 2012

Dimorphic Macalla, *Epipaschia superatalis*, larva on Poison Ivy, *Toxicodendron radicans*, central Oklahoma, Cleveland County, Oklahoma, 11 July 2015

Dimorphic Macalla, *Epipaschia superatalis*, larva on Poison Ivy, *Toxicodendron radicans*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 29 June 2020

Unicorn Caterpillar Moth, *Schizura unicornis*, caterpillar feeding on Elm, *Ulmus* sp., Lexington Wildlife Management Area, Cleveland County, Oklahoma, 7 July 2019

Zephyr Eyed Silkmoth, *Automeris zephyria*, larva, Hondo Canyon, Cibola National Forest, Bernalillo County, New Mexico, 15 October 1998

***Smeared Dagger, Acronicta oblinita*, larva feeding on Blackberry, *Rubus* sp., J.T. Nickel Family Nature and Wildlife Preserve, Cherokee County, Oklahoma, 28 May 2014**

American Dagger Moth, *Acronicta americana*, caterpillar crawling up Post Oak, *Quercus stellata*, central Oklahoma, Cleveland County, Oklahoma, 15 October 2020

➜

Spurge Hawkmoth, *Hyles euphorbiae*, caterpillar, Pasture 12, Little Missouri National Grassland, McKenzie County, North Dakota, 16 July 2005

←

Spurge Hawkmoth, *Hyles euphorbiae*, caterpillar, Denbigh Experimental Forest, McHenry County, North Dakota, 14 September 2002

Spurge Hawkmoth, *Hyles euphorbiae*, caterpillar, Denbigh Experimental Forest, McHenry County, North Dakota, 14 September 2002

Schaus' Tussock Moth, *Halysidota schausi*, caterpillar, Frontera Audubon, Weslaco, Hidalgo County, Texas, 29 October 2017

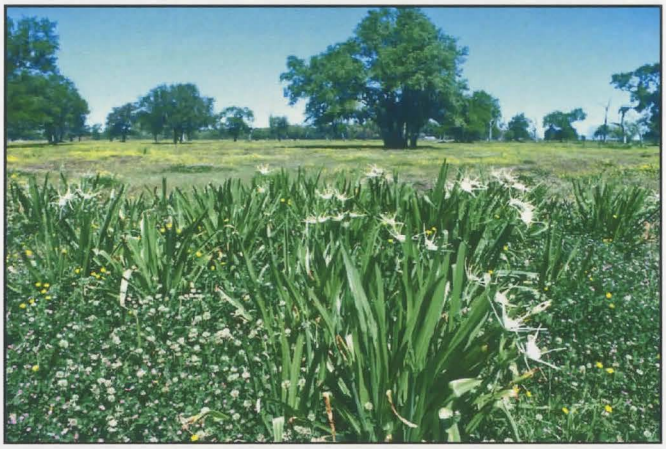
Schaus' Tussock Moth, *Halysidota schausi*, caterpillar, Frontera Audubon, Weslaco, Hidalgo County, Texas, 3 November 2017

Schaus' Tussock Moth, *Halysidota schausi*, caterpillar climbing silk thread, Resaca De La Palma State Park, Cameron County, Texas, 2 November 2017

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

Ancient live oak (*Quercus virginiana*) (# 7235, roster of Live Oak Society of Louisiana Garden Club Federation). Girth of 30 feet, 7 inches, estimated age of 800 years. The oak, which is not as massive as those growing in more protected areas due to frequent pruning by tropical storms, is currently situated at the interface between the dry chenier and wet marsh; the tree is now in serious danger from erosion. Chenier Perdue, Cameron Parish, LA. May 2016. Gary Noel Ross.

Wildflower meadow with lanceleaf tickseed (*Coreopsis lanceolata*) and live oaks. Grand Chenier, LA. May 1991. Gary Noel Ross.



Native northern spider lily (*Hymenocallis occidentalis*) with live oak. Grand Chenier, Cameron Parish, LA. April 1987. Gary Noel Ross.

Native Louisiana giant blue iris (*Iris giganticaerulea*) and live oak with Opuntia cactus. Little Chenier. Cameron Parish, LA. April 1991. Gary Noel Ross.

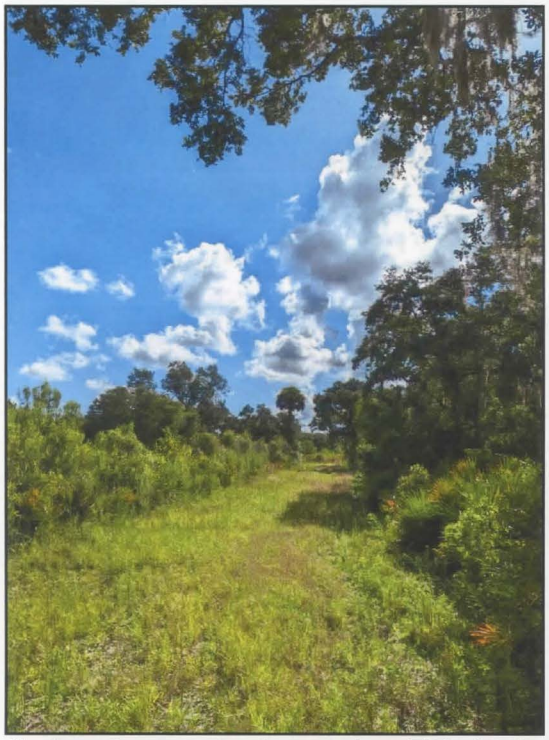
Additional photos defining the habitat discussed in Gary N. Ross' article (Page 265-272) are on pages 292 and 304.

FRITILLARIES AND FRITTATAS

BY

SCOTT D. ANDERSON

On July 24, 2020, during my full year butterfly survey here in Sarasota County, Florida (see The Butterflies of Sarasota County, A Year-long Data Driven Survey, *Southern Lepidopterist Society*, June 2021), I had a rather remarkable day. Walking the South Border Trail transect in Carlton Reserve, I counted 101 Gulf Fritillaries in about 3 hours time. Nowhere else in the county came close to having so many during the entire year. The reason – passionvine (*passiflora incarnata*) in abundance throughout the whole interior of a 3-mile loop. The area is the perfect habitat to support the life cycle of the Gulf Fritillary.



Carlton Reserve to the north - This is the maintenance road looking north. It's wide enough for easy walking and of course, it's Florida, no hills!

Carlton Reserve to the west - Looking west, the maintenance road offers easy walking but no shade of any kind. Passionvine is particularly abundant to the left of the road, an area, I'm told, was burned off years ago.

Early this past summer, our new president of the Sarasota Butterfly Club came up with the idea to bring our members together for breakfast, a social event, so we could keep contact during the hot summer months when butterfly counts or field trips are a bit too taxing. Having said that, we thought it might be fun if we could combine a very short walk to see butterflies before breakfast. So given the timing in July, the sighting of so many Fritillaries at Carlton 2 years before, it seemed a good idea to combine Fritillaries and Frittatas!

Gulf Fritillary (*Agraulis vanilliae*) ventral view.

On July 23, a Saturday, a dozen of our club members parked along the road at Carlton Reserve and headed out for a short walk to see if we could duplicate the success of 2 years earlier. It was a beautiful sunny day although it was warming quickly. Still in sight of the cars, the Fritillaries started to appear. They were very accommodating because there were so many wildflowers on the maintenance road which was our path; they came to us and seemed happy to

do so. A few turned into 10 and 10 turned into 20 and within 20 minutes we stopped counting at 50 when it was time to turn around. The same abundance they had displayed 2 years earlier was repeated to everyone's delight.

A tiny Gulf Fritillary egg waiting to start the whole process of creating a butterfly.

Gulf Fritillary egg magnified from previous photo.

One of the many wildflowers growing on the maintenance road. Less than a week later, the road was mowed and all the wildflowers were gone.

A passion flower with an opening bud immediately behind.

Passion flower (*Passiflora incarnata*) in full bloom.

The area we visited was filled with passion vine (*Passiflora incarnata*), and there were flowers and fruit ripening on the vine.

Gulf Fritillary (*Agraulis vanilliae*) dorsal view.

Gulf Fritillary (*Agraulis vanilliae*) ventral view.

Having successfully found our target species in numbers, along with a dozen other species, we headed for a great local restaurant just a few miles away known for their hearty breakfasts. It was a clever idea and the whole plan worked. We saw butterflies in large numbers and enjoyed each other's company during a time of year when it's usually too hot to do so. Next year, perhaps we'll get together for Fritillaries and French toast!

(Scott Anderson, E-Mail: scottdanderson53@gmail.com)

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BUTTERFLIES WORTH KNOWING

BY

CLARENCE M. WEED, D. Sc.

Published by
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for
NELSON DOUBLEDAY, Inc.
1925

Black Swallowtail visiting thistle, showing the tongue partially uncoiled

The Black Swallowtail (*Papilio polyxenes*)

"The larvae of the Black Swallowtail have certain characteristics in which they differ from many other caterpillars. After each moult they do not devour their cast skins, which happens in the case of many of their relatives when feeding, as well as when resting, they remain exposed upon the leaf and seem never to attempt to conceal themselves, as is the habit with a large population of caterpillar...when disturbed one of these larvae will push out from just back of the head the strange, looking orange-yellow Y-shaped organ which gives off a disagreeable odor. These osmateria organs are generally believed to be defensive against the attack of birds and various other enemies..." (Page 60)

****

Roundup of marsh cattle on Rutherford Beach (chenier) by coastal cowboys. Cameron Parish, LA. May 1991. Gary Noel Ross.

Cow on beach and Gulf of Mexico. Oil platform in background. Rutherford Beach (chenier). Cameron Parish, LA. September 1991. Gary Noel Ross.

Cattle barge for transporting marsh cattle to market. Rutherford Beach (chenier); Cameron Parish, LA. June 1991. Gary Noel Ross.

Additional photos defining the habitat discussed in Gary N. Ross' article (Page 265-272) are on pages 292 and 300.

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THE MOTHS OF THE CULLOWHEE, NORTH CAROLINA, MEETING

BY

KELLY RICHERS

In a previous report (Richers, 2022), the meeting events and some descriptions of the trapping of moths were reported in the *Southern Lepidopterists News*. This edition of that meeting report delineates some of the individual species caught for anyone who wants to know what specific moths were flying during the week of June 14-17, 2022, in Cullowhee. Again, as previously mentioned in the other article, the conditions were optimal for moth collecting, but not for humans wandering about like Mad Dogs and Englishmen in the midday sun. The temperatures were nearing record highs, and the humidity was excessive, especially for June. While trout fishing Friday, the water temperature reached 70° Fahrenheit, which is excessive for the trout and curtailed the fishing, for instance.

Butterfly collecting was minimal. On Tuesday, at Silva, there were only a couple of species seen flying and only two caught. At one of the recommended spots, Gibson Bottoms, on Thursday, there were only a couple of species caught. It was just too hot and humid, and very little was flying.

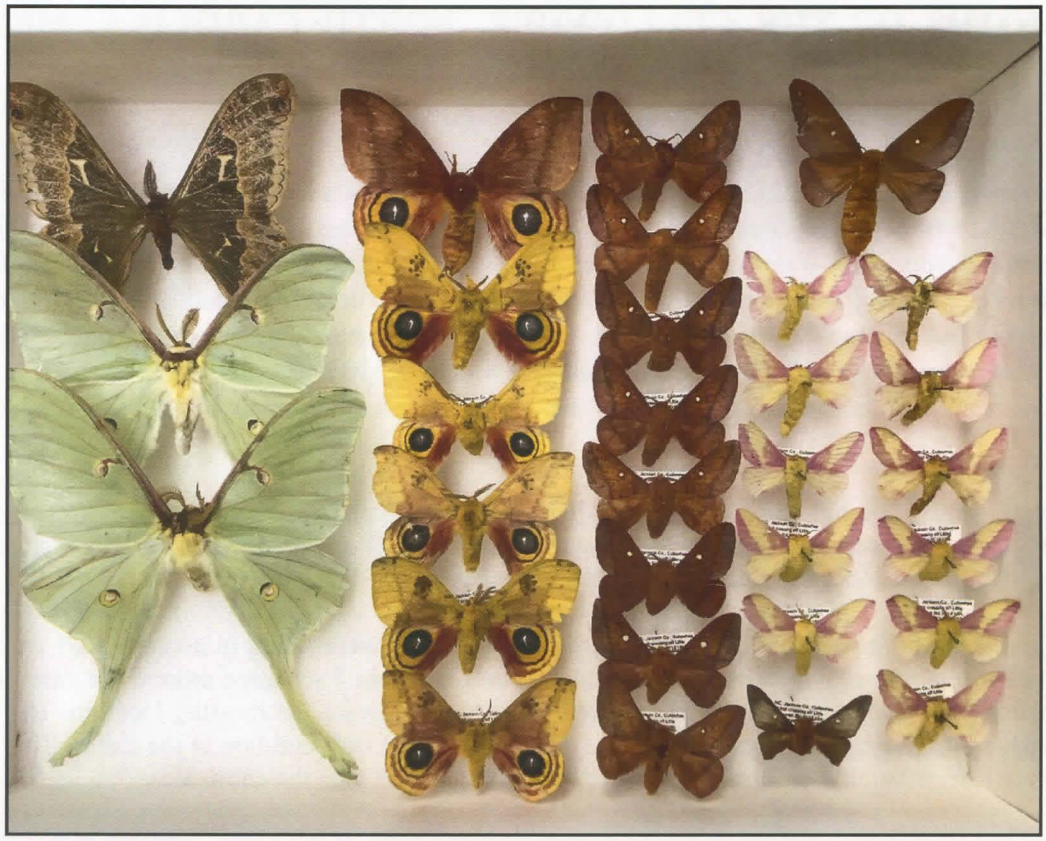
However, the moth trapping was a completely different story. Moths were flying in abundance. I set out four traps each night, Tuesday, Wednesday, Thursday and Friday. The first night I set three around the cabin referenced in the previous article, and one along a trail I discovered lower down toward the meeting location. The second night I put two at each spot. The third and fourth nights I put three on the trail and one at the cabin. This was because the trail, in a nice forested area, was turning up more interesting moths than the cabin area.

In addition, on Tuesday, upon arriving, I put up two pheromone traps at the cabin, which I then left for the four day period, taking them down upon departure. These had a variety of lures and did surprisingly well.

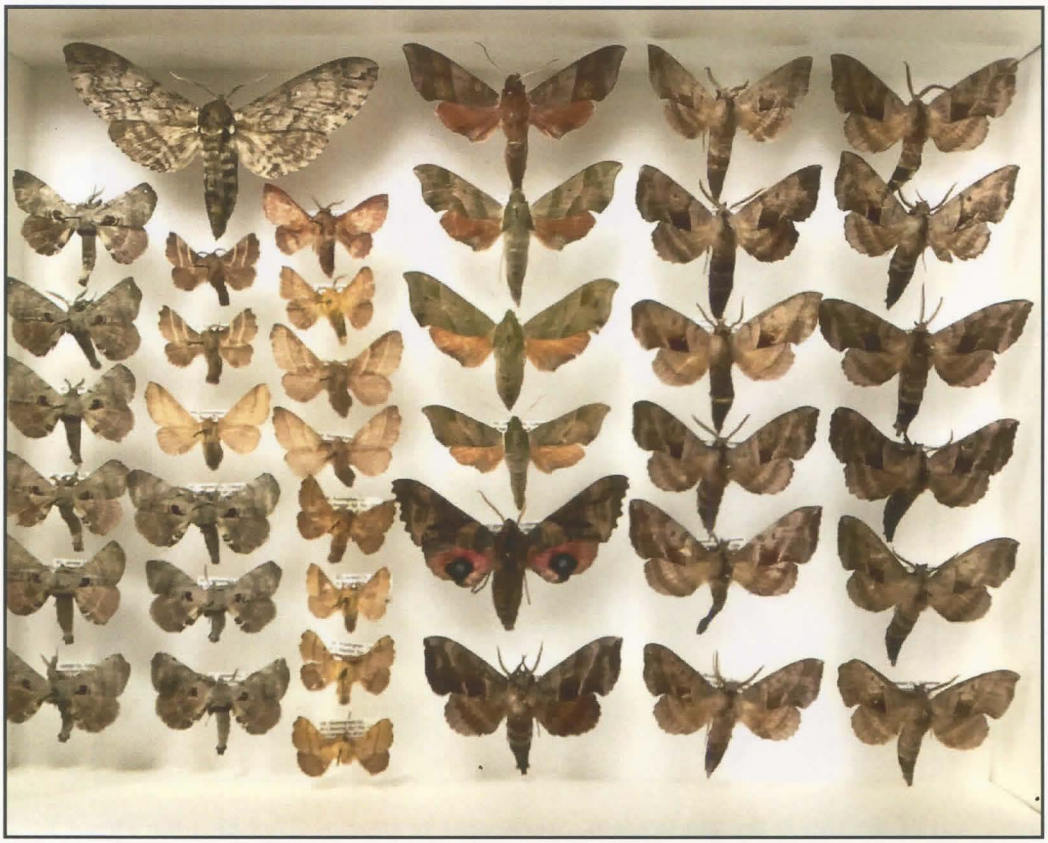
Almost all identifications listed here have been done by me, with the exception of the plume moths, which Debbie Matthews identified and the Sesiid moths which William Taft identified. Since they identified by photographs, and since I did not do dissections, all identifications are tentative.

Callosamia angulifera

For me, the prize catch of the trip is the ghost moth, *Sthenoopis pretiosus*. That plus the Diana Fritillary I caught in Tennessee on the way back to Virginia made the whole trip right there. Lots of other great things for my collection, however, are listed below. I list the numbers caught at each location, outside Harrisonburg, Virginia, in northern Virginia, and the two locations at Cullowhee. There are so many Haploa moths because I did not know how to separate the two species in the field, but I knew there were several species involved!



Actias Luna, Automeris io, Anisota stigma* and *peigleri*, and *Dryocampa rubicunda



***Apatalodes torrecacta, Malacosoma americana* and *disstria*, sphingid moths**

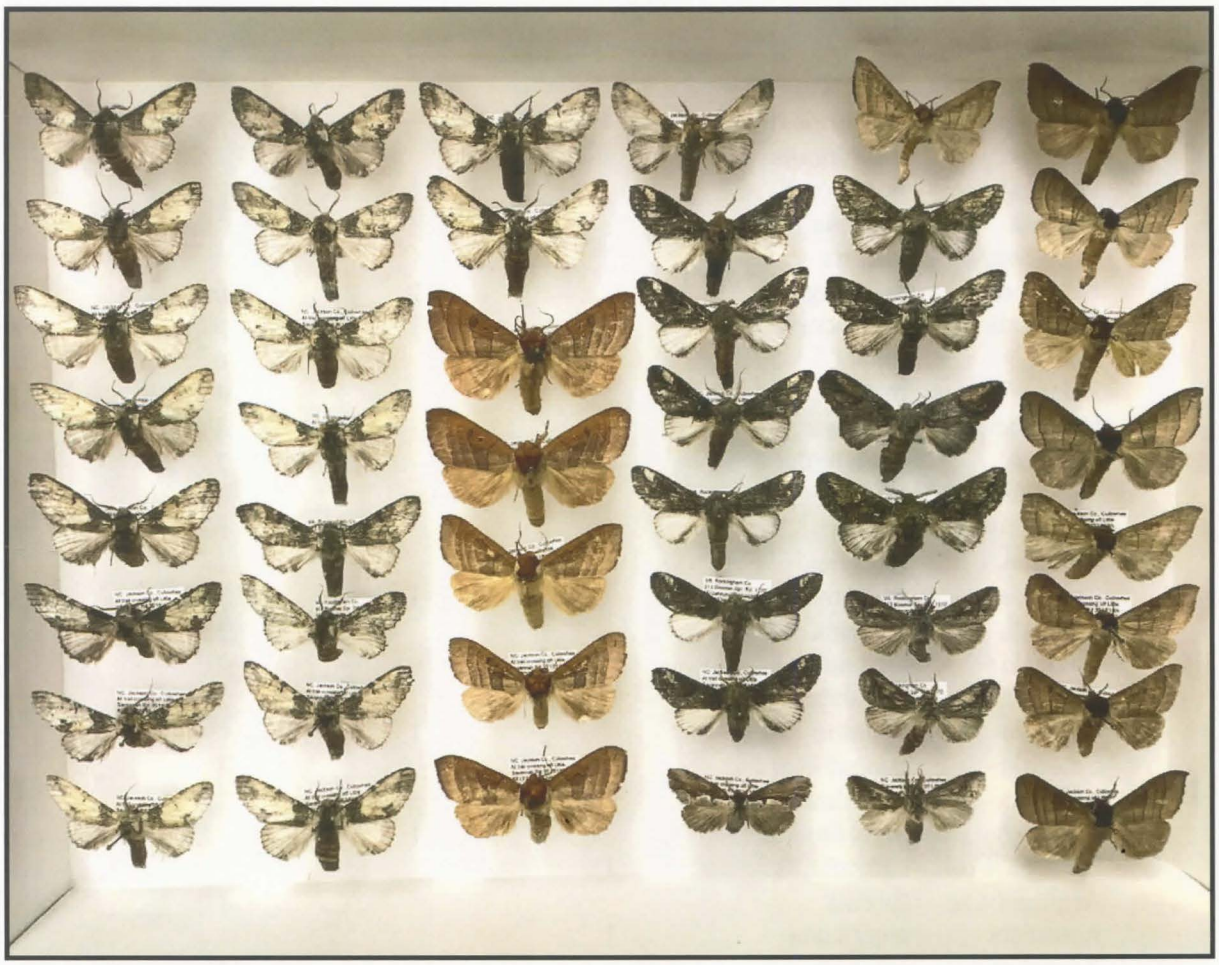
Following is a chart of the moths and butterflies caught on this trip:

MONA	Genus	Species	VA	Cabin	Trail	Other
22	Sthenipis	pretiosus		1		
311.1	Scardia	amurensis		1	1	
372	Acrolophus	plumifrontella			1	
374	Acrolophus	propinqua		2		
2295	Dichomeris	flavocostella		1		
2420	Yponomeuta	multipunctella		7	10	
2550	Synanthedon	pictipes		4		
2552	Synanthedon	rileyana		8		
2570	Synanthedon	kathyae		8		
2583	Synanthedon	exitiosa		22		
2589	Podosesia	syringae		4		
3633	Choristoneura	parallela	1	2	6	
3635	Choristoneura	rosaceana	1		5	
3661	Archips	cerasivorana	1			
4639	Pyromorpha	dimidiata	2			
4644	Megalopyge	crispata			1	
4659	Packardia	geminata				
4665	Lithacodes	fasciola		3	8	
4667	Apoda	y-inversa		1	2	
4671	Prolimacodes	badia			1	
4679	Natada	nasoni			3	
4697	Euclea	delphin		1	1	
4698	Parasa	chloris			1	
4697.1	Euclea	nanina			1	
5073	Pyrausta	niveicilialis			1	
5159	Desmia	funeralis	1		2	
5226	Palpita	magniferalis			1	
5227	Palpita	aenescentalis		1		
5241	Pantographa	limata			7	
5279	Herpetogramma	theseusalis		1	1	
5292	Conchylodes	ovulalis			3	
5362	Crambus	agitatellus		6	3	
5363	Crambus	saltuellus	4	2	2	
5464	Urola	nivalis	1		1	
5517	Aglossa	caprealis			2	
5533	Hypsopygia	olinalis	5		1	
5797	Sciota	virgatella				
6076	Thyris	maculata		6		
6091	Geina	periscelidactylus		1	8	
6168	Oidaematophorus	eupatorii			2	
6237	Pseudothyarira	cymatophoroides			2	
6273	Macaria	pustularia		1	7	
6326	Macaria	aenulataria	1		6	
6348	Macaria	fissinotata		1	1	
6352	Macaria	granitata			3	
6353	Macaria	multilineata	1			
6386	Digrammia	ocellinata		1	3	
6590	Anavitrinella	pampinaria		4	5	
6599	Epimecis	hortaria		8	12	
6620	Melanolophia	canadaria	1	4	5	
6654	Hypagyrtis	unipunctata	2	1	6	

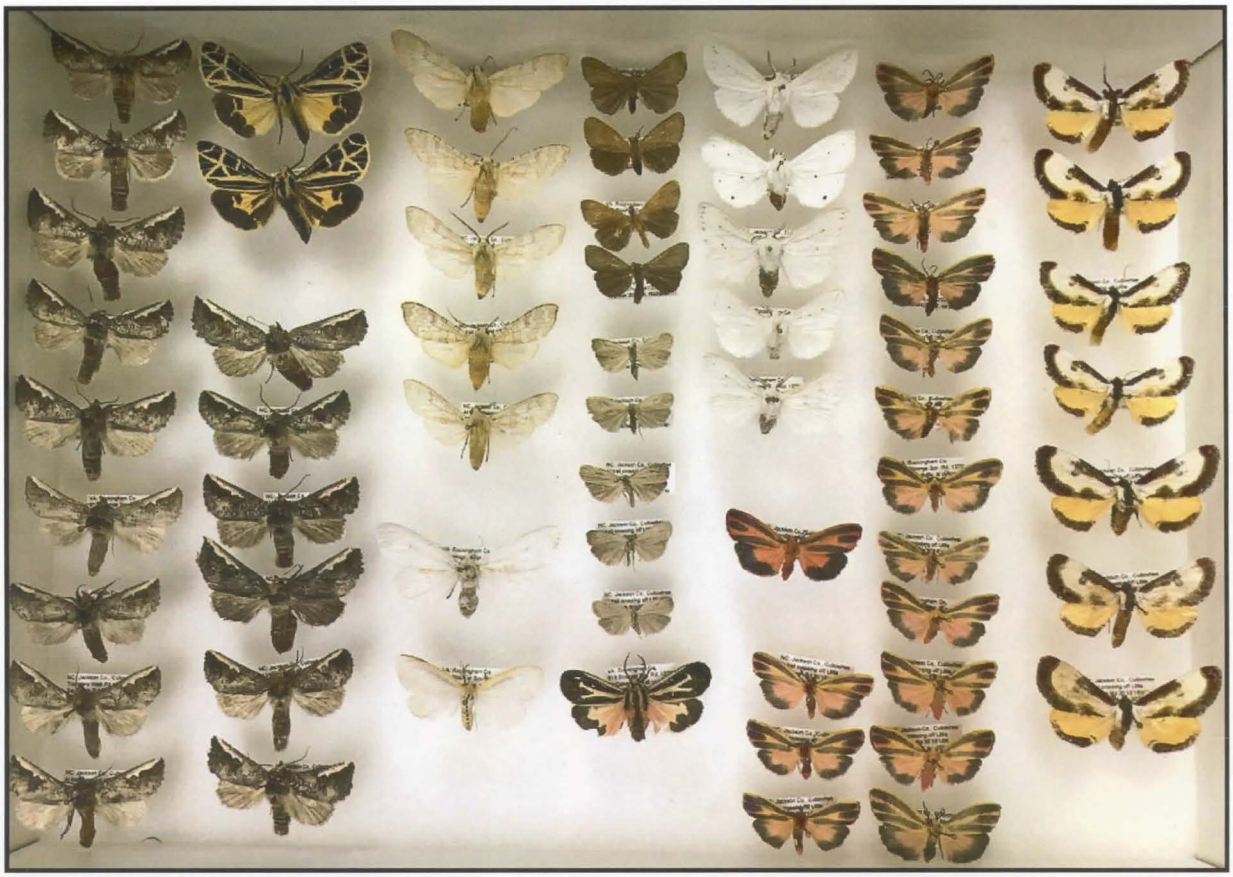
MONA	Genus	Species	VA	Cabin	Trail	Other
6655	Hypagyrtis	esther	7	2		
6720	Lytrosis	unitaria	1	2	8	
6726	Euchaena	obtusaria		1	3	
6735	Euchaena	deductaria			1	
6744	Xanthotype	attenuaria		1	3	
6753	Pero	honestaria		1	1	
6755	Pero	morrisonaria			3	
6763	Phaeora	quernaria	1			
6796	Campaea	perlata			1	
6823	Metarranthis	angularia			4	
6826	Metarranthis	hypochraria	7	2	7	
6828	Metarranthis	honmuraria		1		
6832	Metarranthis	obfirmaria	1	1		
6839	Probole	nepiasaria		1	6	
6941	Eusarca	confusaria	2	3	8	
6963	Tetracis	crocallata		1	1	
6966	Eutrapela	clemataria	1		1	
6982	Prochoerodes	lineola		4	13	
6987	Antepione	thisoari		1		
7010	Nematocampa	resistari		3		
7033	Nemoria	llixaria			4	
7159	Scopula	limboundat	2		1	
7181	Lophosis	labeculata		1	1	
7197	Eulithis	gracilineata	1	3	2	
7214	Gandaritis	atricolorat		3	10	
7290	Rheumaptera	meadii			1	
7440	Eubaphe	mendic		7	3	
7648	Dyspteris	abortivari		1	6	
7653	Calledapteryx	dryopterata	1			
7663	Apatelodes	torrefacta	3	4	9	
7683	Artace	cribrarius		1		
7687	Phyllodesma	americana	1		1	
7698	Malacosoma	disstria	4		4	
7701	Malacosoma	americana	5			
7715	Dryocampa	rubicunda		5	12	
7716	Anisota	stigma			9	
7720	Anisota	peigleri			1	
7746	Automeris	io			6	
7758	Actias	luna			2	
7765	Callosamia	angulifera			13	
7789	Ceratomia	catalpae			1	
7824	Paonias	excaecata			1	
7827	Amorpha	juglandis	1	2	10	
7885	Darapsa	myron			3	
7886	Darapsa	choerilus			1	
7902	Datana	ministra			1	
7903	Datana	angusii	1		7	
7904	Datana	drexelii		2	1	
7905	Datana	major			2	
7920	Peridea	angulosa			1	
7929	Nerice	bidentata			1	
7931	Gluphisia	septentrionis			1	

MONA	Genus	Species	VA	Cabin	Trail	Other
7951	Symmerista	albifrons	3	1	10	
7952	Symmerista	canicosta			1	
7957	Dasylophia	anguina		2	1	
7975	Macrurocampa	marthesia	4		22	
7983	Heterocampa	obliqua	2		5	
7990.1	Heterocampa	pulvera	1			
7994	Cecita	guttivitta	1		3	
8005	Schizura	ipomaeae	1	2	7	
8046	Crambidia	uniformis			4	
8089	Hypoprepia	miniata			1	
8090	Hypoprepia	fucosa	2	1	12	
8110	Haploa	contigua			15	
8111	Haploa	lecontei		5	54	
8118	Virbia	opella	4			
8133	Spilosoma	latipennis	2			
8137	Spilosoma	virginica		1	2	
8140	Hyphanatria	cunea	1			
8170	Apantesis	nais	1			
8176	Apantesis	anna	3			
8204	Halysidota	harrisii	1	1	3	
8230	Cycnia	tenera	1			
8292	Dasychira	tephra			3	
8302	Dasychira	obliquata			9	
8314	Orgyia	definita		1	1	
8316	Orgyia	leucostigma		2	1	
8323	Idia	aemula	1			
8347	Zanclognatha	obscuripennis	1			
8381	Renia	discoloralis	1			
8442	Hypena	baltimoralis		1	2	
8443	Hypena	palparia		1		
8514	Scolecocampa	liburna			4	
8587	Panopoda	rufimargo		2	6	
8588	Panopoda	carneicosta			6	
8689	Zale	lunata			6	
8697	Zale	minerea			4	
8719	Euparthenos	nubilis			3	
8721	Allotria	elonympha	1		7	
8727	Parallelia	bistriaris			2	
8745	Mocis	texana	1			
8789	Spiloloma	lunilinea			1	
8849	Catocala	andromedae		1		
8857	Catocala	miranda			1	
8857	Catocala	ultronia			2	
8867	Catocala	blandula			3	
8872	Catocala	clintonii		1		
8877	Catocala	connubialis			1	
8970	Baileya	opthalmica		5	15	
9044	Marinatha	nigrofimbria		1		
9053	Pseudeustrrolia	carneola	1			
9060	Argillophora	furcilla			1	
9200	Acronicta	americana	1			
9235	Acronicta	spingera			1	

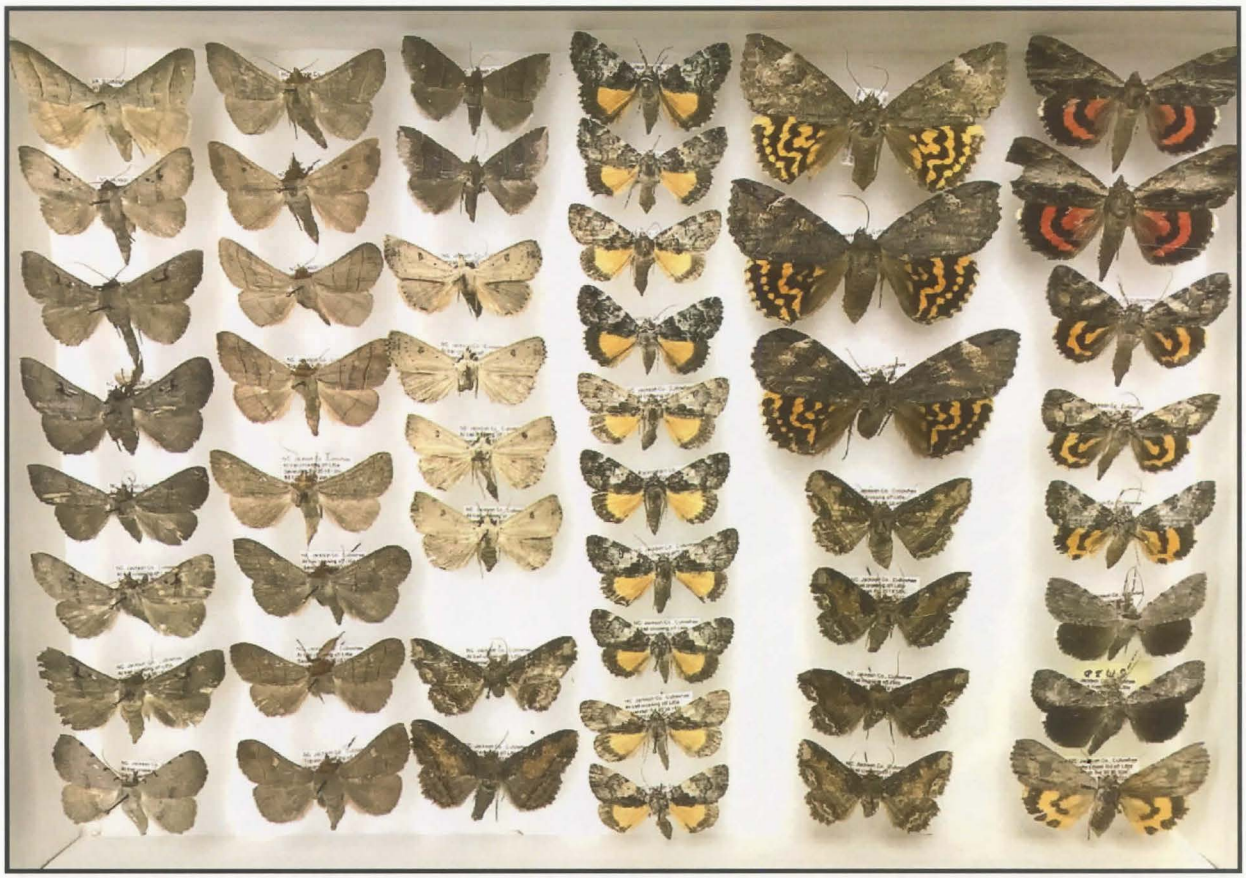
MONA	Genus	Species	VA	Cabin	Trail	Other
9243	Acronicta	ovata			7	
9244	Acronicta	modica		2	3	
9246	Acronicta	clarescens		1		
9249	Acronicta	increta			24	
9261	Acronicta	impressa			1	
9285	Polygrammate	hebraeicum		1	9	
9301	Eudryas	grata			7	
9631	Callopistria	mollissima			3	
9669	Spodoptera	ornithogalli			1	
10232	Melanchra	adjuncta			1	
3870	Epargyreus	clarus clarus				2
3904	Achalarus	lycaides				1
4060	Poanes	zabulon				1
4361	Everes	comyntas				2
4363	Celastrina	ladon ladon				1
4449	Speyeria	diana				1
4481	Phyciodes	tharos tharos				1
4568.1	Enodia	anthedon	1			
			80	98	506	9



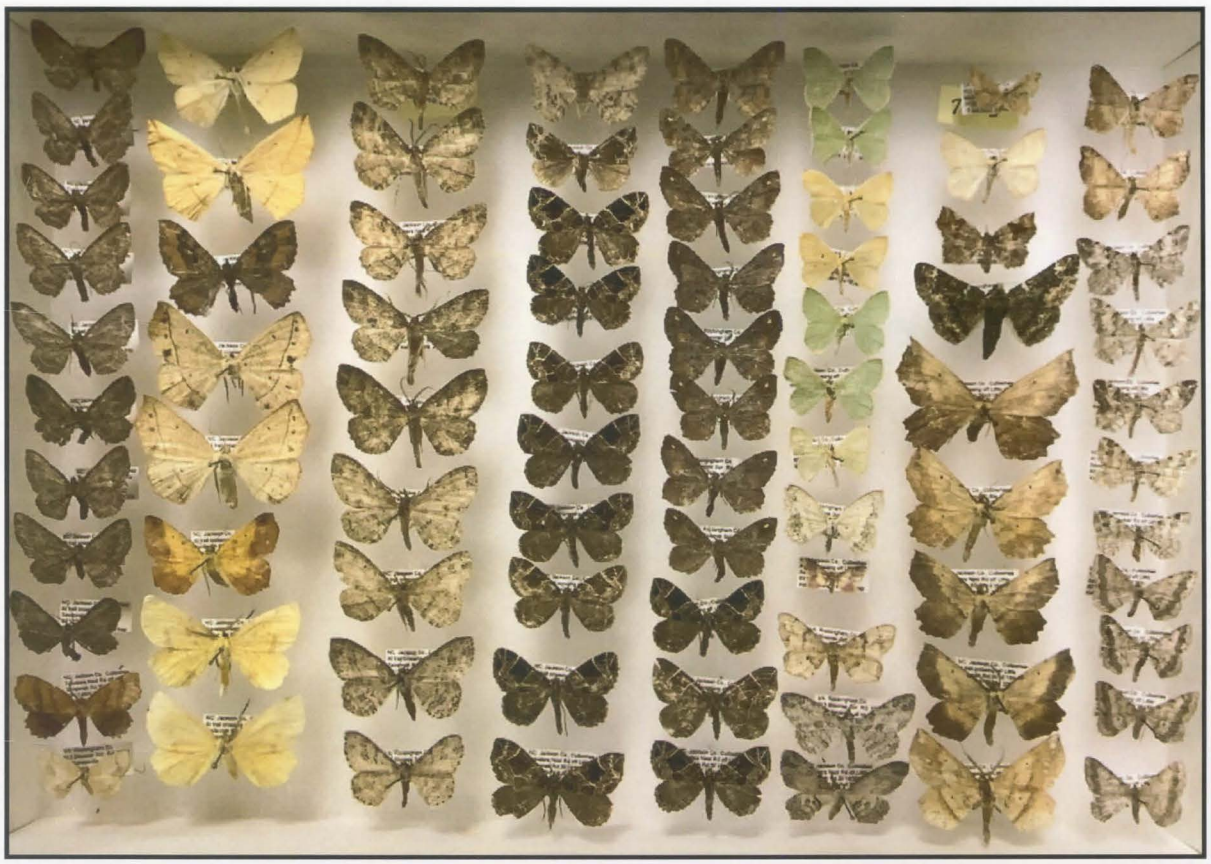
Notodontids



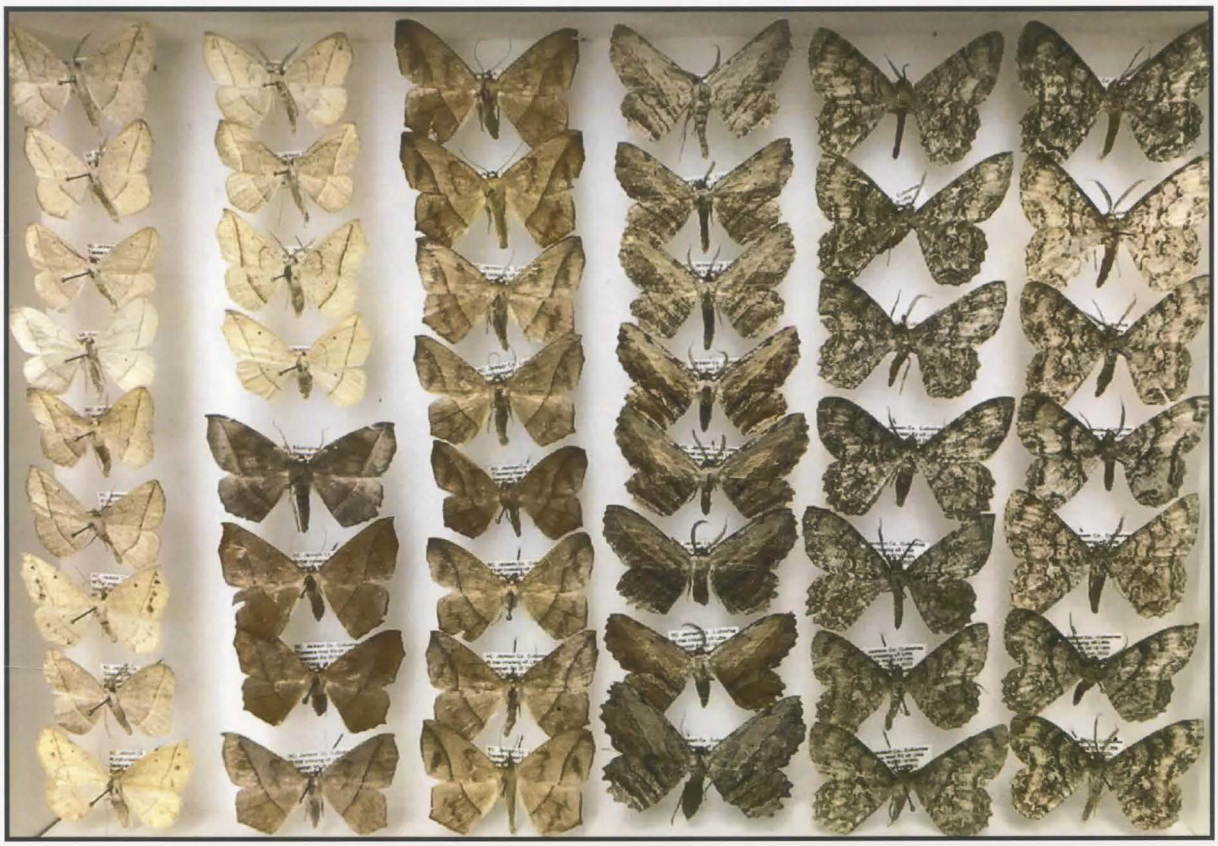
Symmerista* probably *albifrons* but dissection might be needed, Arctiids, *Eudryis grata



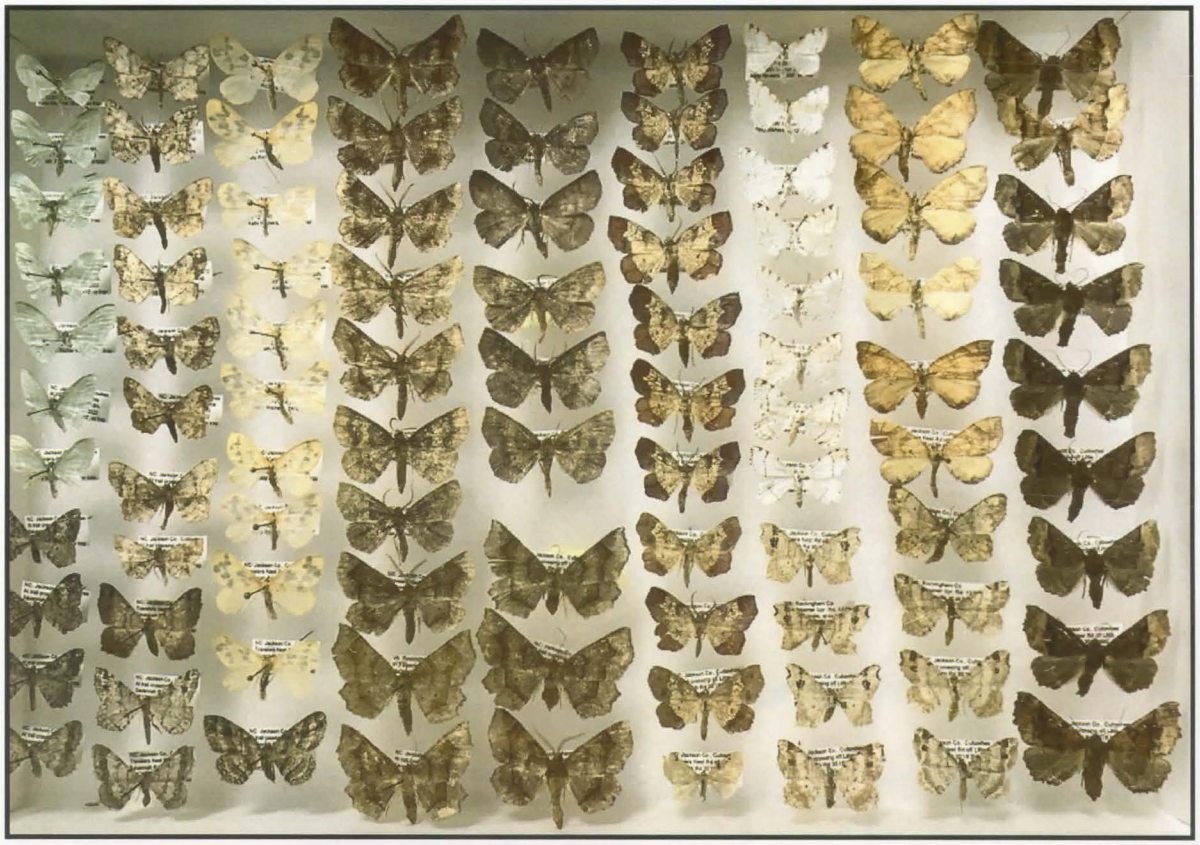
These are some of the Erebidae, formerly Catocalinae, including the few *Catocala* moths captured



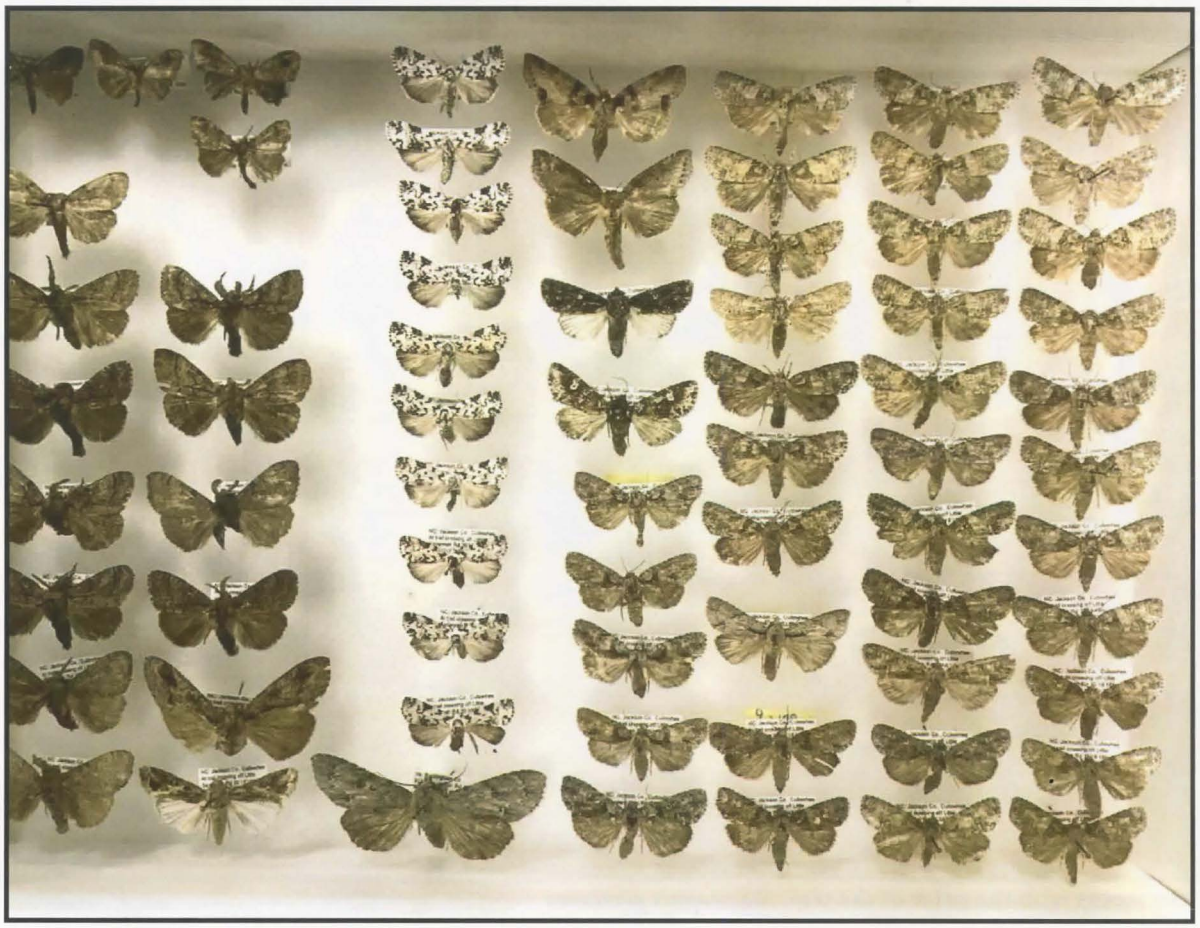
Geometrids



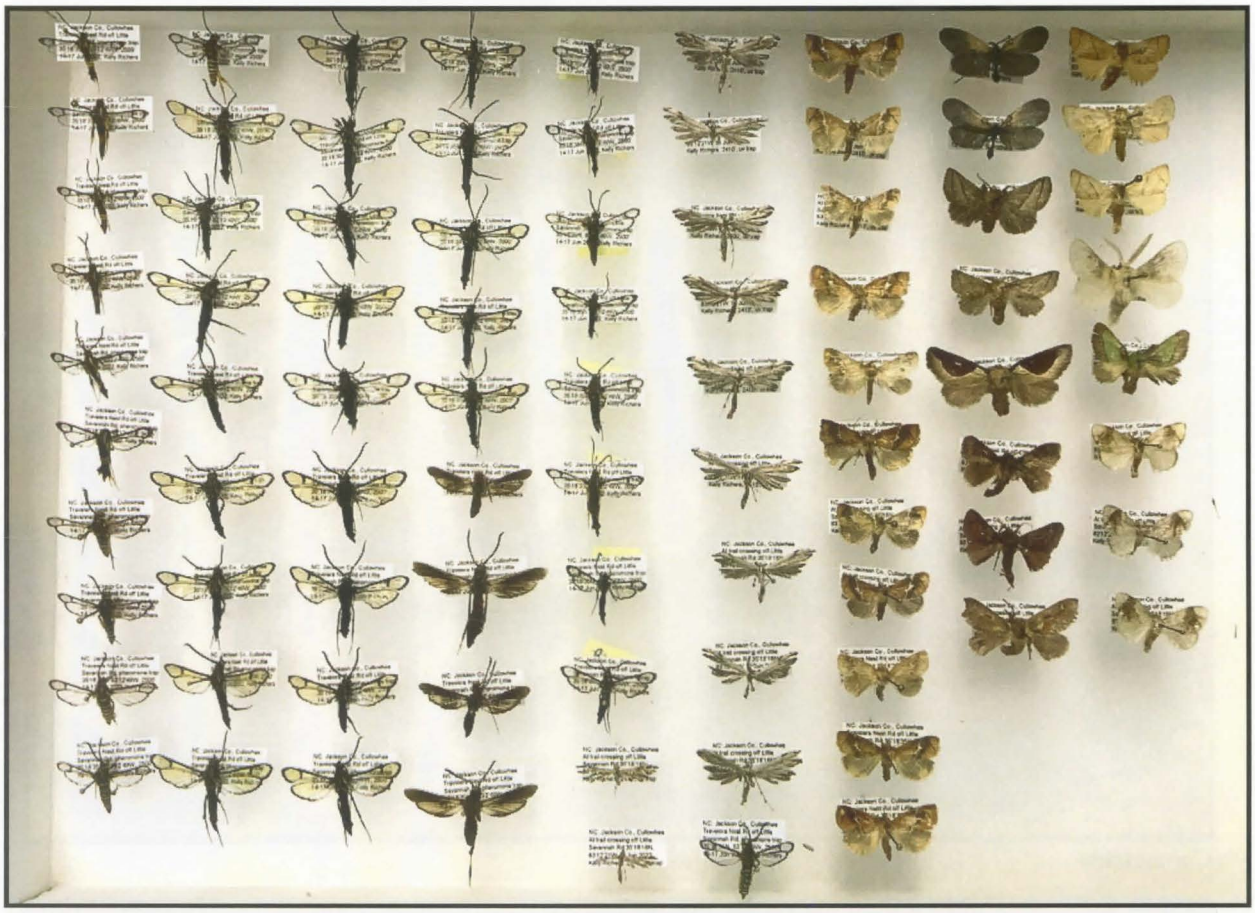
Larger Geometrids, of which there were many, including *Lytrosis unitaria*, which was one of my desired species



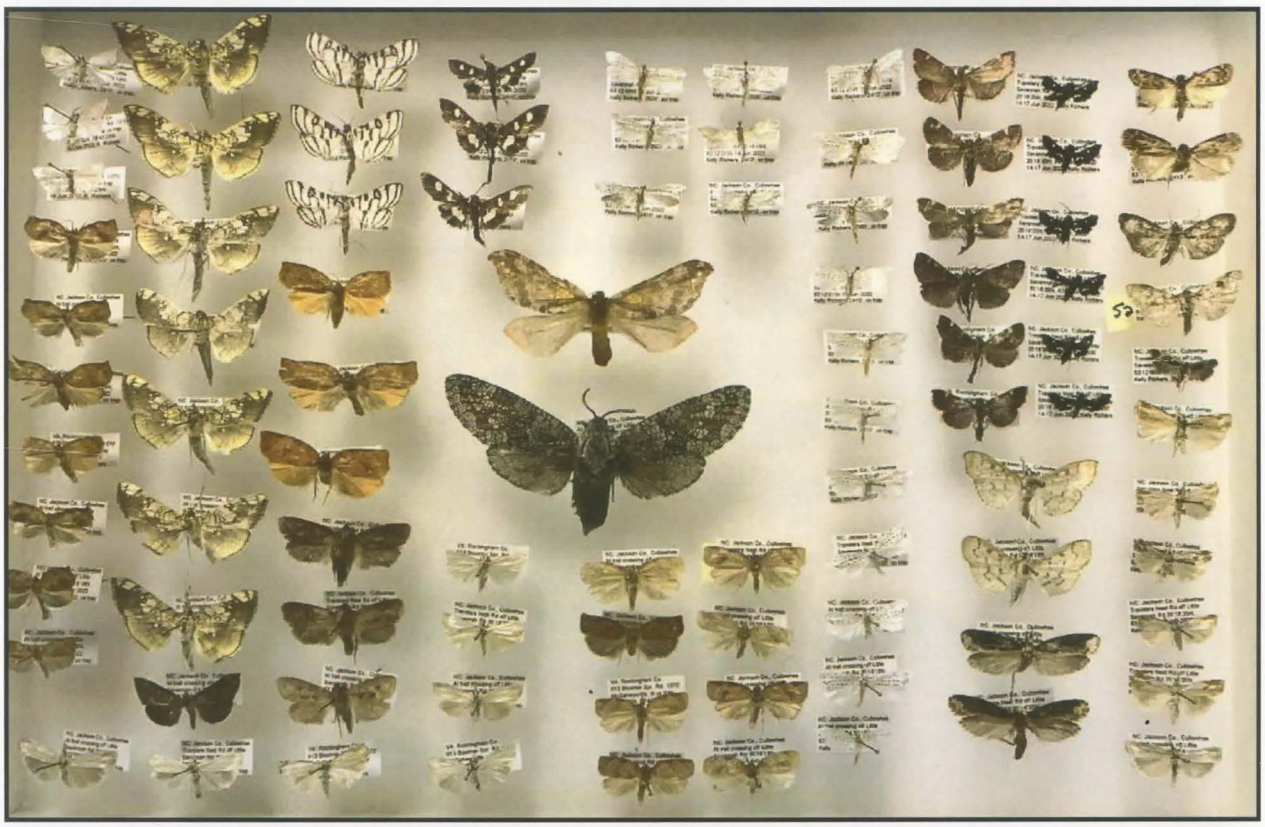
Geometrids



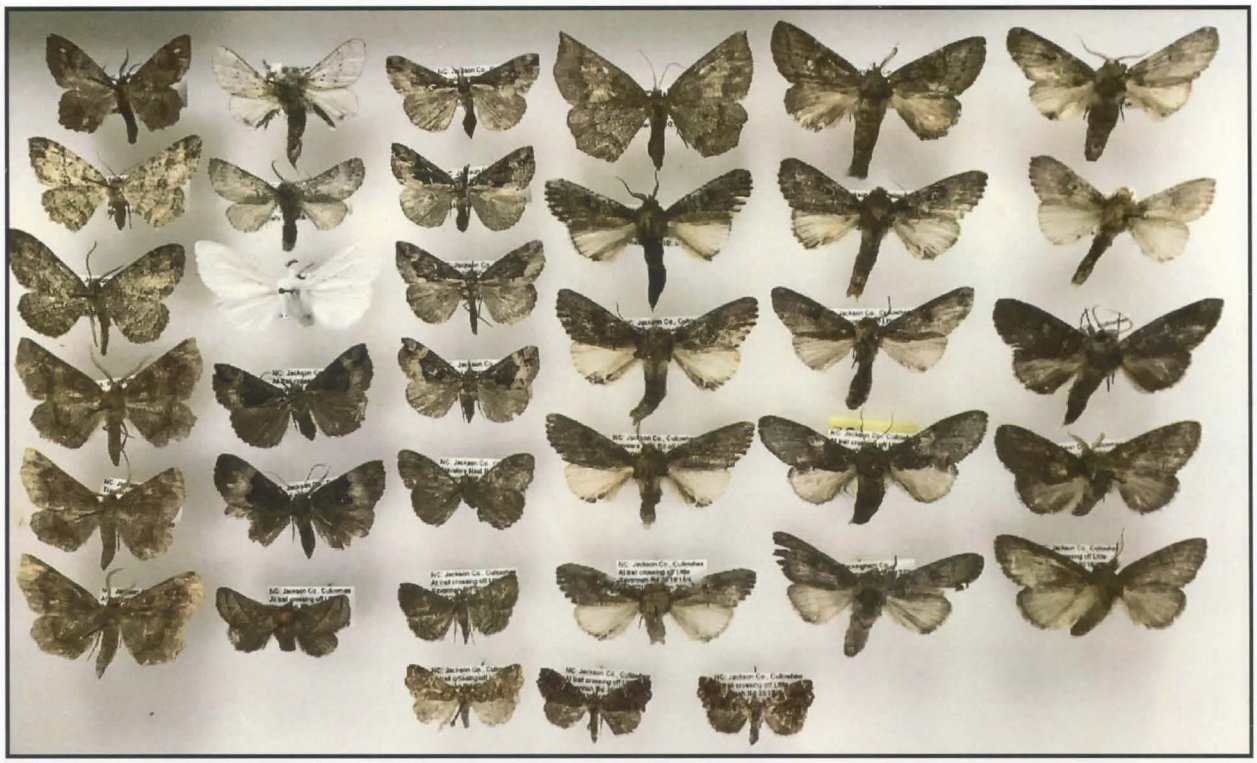
Lymantriinae and noctuid *Acronicta*



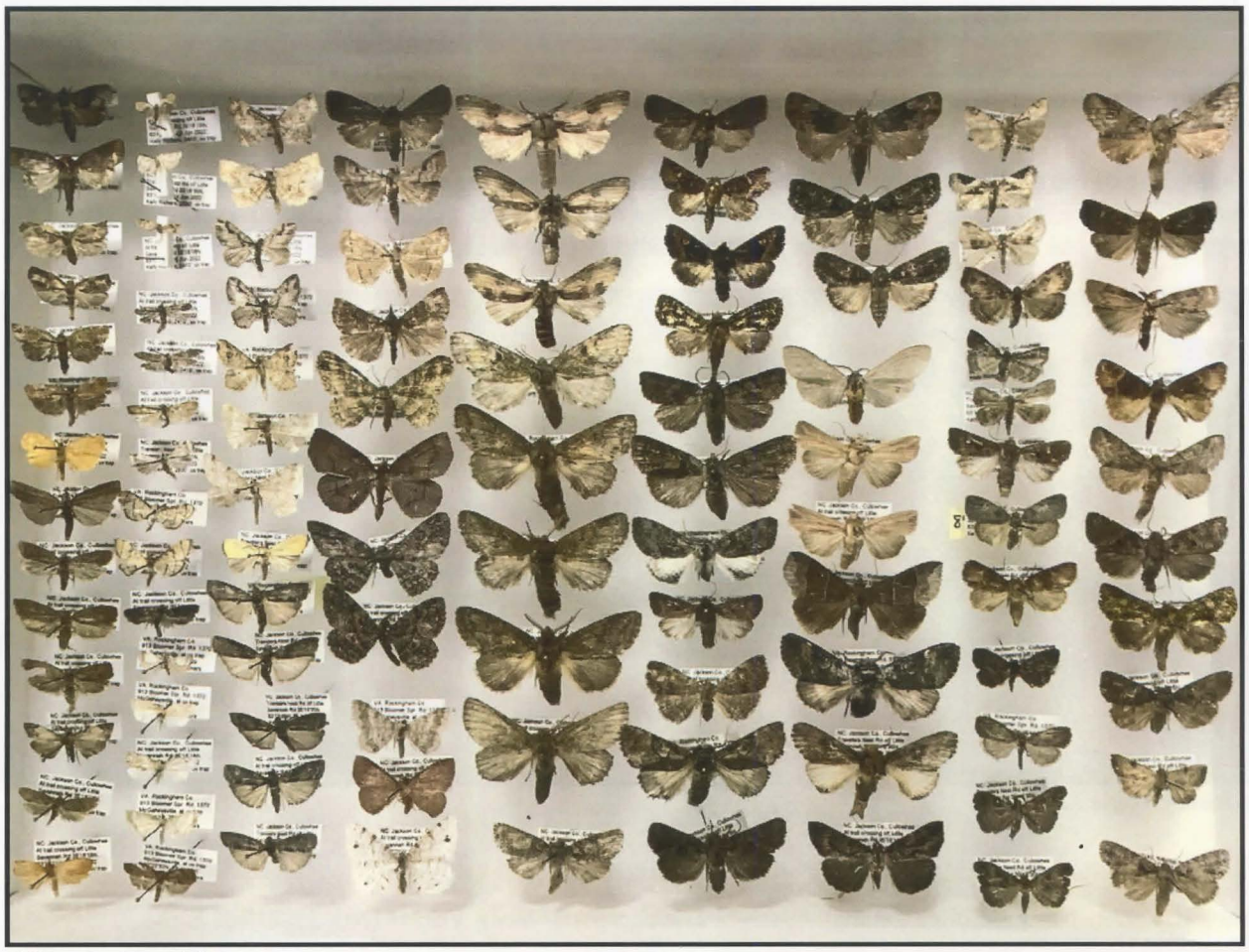
Sesiid moths from two traps with Limacotid area moths



Micro moths with the prize of the trip, *Sthenopois pretiosus*



Miscellaneous other Identified



Still to be Identified

The total number of butterflies from the trip, for comparison

This sampling of the moths of Cullowhee shows how rich the collecting was for the four days of the meeting. While the butterflies were not flying to any great extent, it was a wonderful place for the moth collector. There are still more to identify, but this sampling gives a good indication of the fun I, at least, had! Kelly

Map from Google Earth

Reference

Richers, K., 2022, North Carolina Calling! *Southern Lepidopterists' News*, Vol. 44 (NO. 2): 219-222.

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

ATLIDES HALESUS (CRAMER, 1777) (LEPIDOPTERA: LYCAENIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR. AND CARLOTTE DOZAR BROU

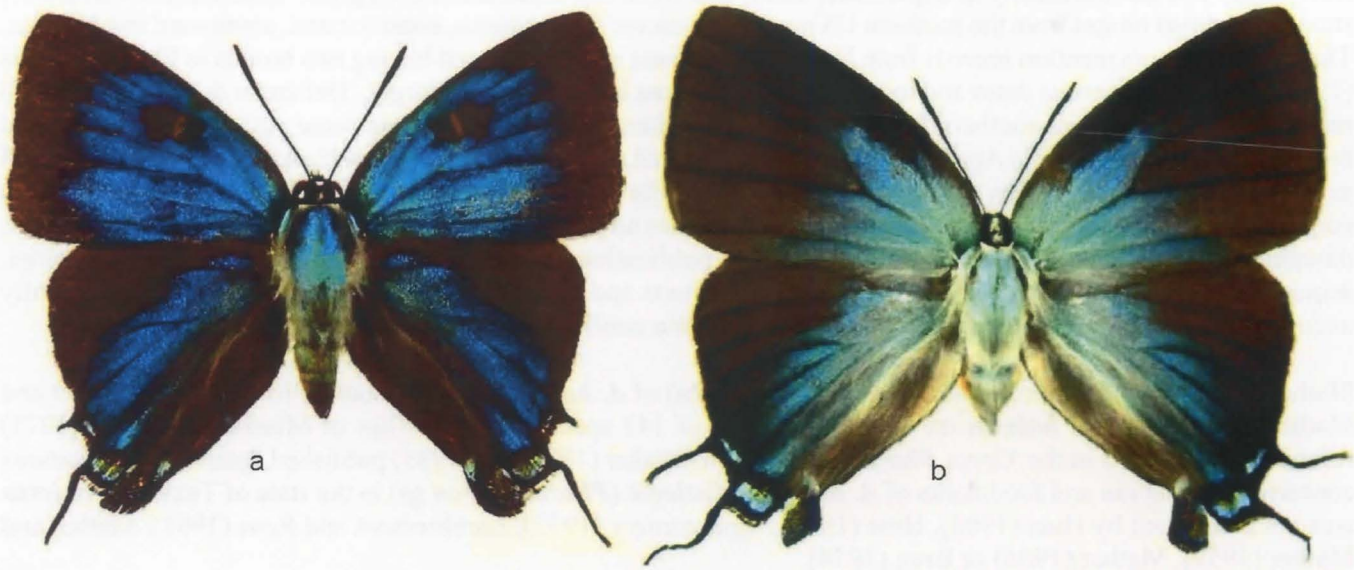


Fig. 1. ***Atlides halesus*** phenotypes: a. male, b. female.

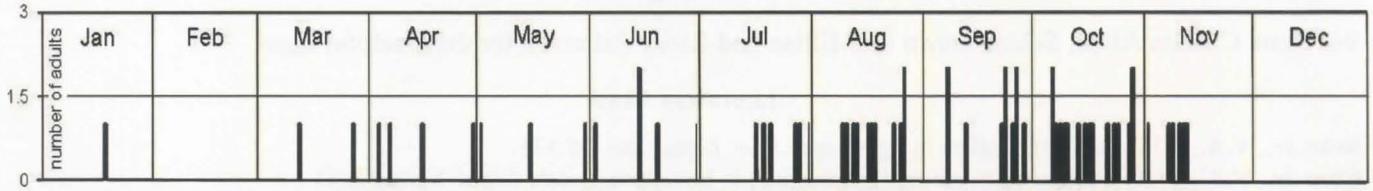


Fig. 2. Adult ***A. halesus*** captured in Louisiana. n = 65

The striking lycaenid butterfly***Atlides halesus*** (Fig. 1) is the largest species of hairstreak in the state of Louisiana. It is commonly referred to as the *'Great Purple Hairstreak'*, though it has no purple color in Louisiana. Rather, males display brilliant iridescent blue colored scales over a black background on the dorsal surface of all four wings and similarly females have aqua scales over a black background. The reference to purple is more aptly referable to the adults in western U.S. populations. This species appears to have been originally described from the state of Virginia, the type(s) are apparently lost.

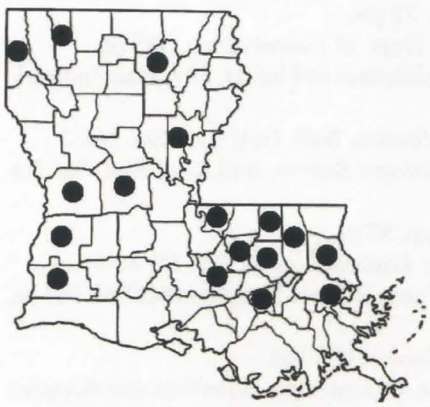


Fig. 3. Parish records for ***Atlides halesus.***

Most of this small series of adults recorded in this study were captured in ultraviolet light traps, though a very few were taken by hand netting, and in fermenting fruit bait traps using wild crab apples blended with sugar and beer. Amazingly, these few dozens of adults are all that we captured or documented across Louisiana 24-hours daily, every day of every year over the past 53 years, though we did not make a concerted effort to specifically look for it. We published species accounts on the majority of Louisiana's hairstreaks e.g.: Brou (2000), (2007), (2007b), (2008) in past decades, and these others occur in much greater population numbers. In Brou (1974) we reported capturing 13 adult ***Calycopis cecrops*** in light traps, and in Brou (2005) 689 adults were captured in UV light traps occurring in four annual broods.

Based upon our limited study sample, it appears there are at least four annual broods of ***A. halesus*** in Louisiana (Fig. 2). The parish records documented by us in this study are illustrated in Fig. 3. Jung (1950) reported one specimen of ***A. halesus*** May 30, 1936 from New Orleans, Orleans Parish. Lambremont (1954) reported one

specimen November 11, 1933 also from New Orleans, Orleans Parish. Ross and Lambremont (1963) reported seven specimens of ***A. halesus***, (one) May 15, 1920, (one) October 15, 1920, (one) September 26, 1922, (one) October 6, 1922, (one) October 16, 1960, (one) October 28, 1960, (one) October 24, 1961, all from Baton Rouge, East Baton Rouge Parish. We added these nine specific adult dates of capture provided by Jung (1950), Lambremont (1954), Ross and Lambremont (1963) to our phenogram (Fig. 2). Klots (1951) stated ***A. halesus*** occurs Florida north to New Jersey, Illinois, west to California in two broods. Forbes (1960) reported ***A. halesus*** from Southern States, north to New Jersey and Illinois mostly in September, Texas and west, to Tennessee and Virginia. Erlich and Erlich (1961) stated ***A. halesus*** ranges from the southern US northward except in mountains, coast to coast, southward into Mexico. These same authors mention records from New York, Indiana and Oregon and having two broods in Florida. Harris (1972) provided numerous dates and locations for ***A. halesus*** in the state of Georgia. Heitzman & Heitzman (1987) reported ***A. halesus*** from southern Missouri, northern Arkansas and Texas. These same authors reported several broods in Missouri starting in April. Heppner (2003) reported ***A. halesus*** to occur New York to Florida and Missouri to Texas, and Colorado to New Mexico and Oregon to California and Mexico, January to December. Marks (2013) conjectures there are three broods in Louisiana, but furnishes no proof. Marks listed 22 parish records for ***A. halesus***, though many of these, as others throughout this publication are second-hand information from amateurs, acquaintances, butterfly watchers, amateur butterfly counts and ever-changing temporary websites, consequently unconfirmed and undocumented hearsay stated as fact. We confirmed 17 parish records (Fig. 3) in this study.

Mather and Mather (1958) reported about 40 (wild adults) of ***A. halesus*** from the state of Mississippi. Mather and Mather (1976) listed ***A. halesus*** on their updated list of 143 species of Butterflies of Mississippi. Howe (1975) referred to ***A. halesus*** as the *'Great Blue Hairstreak'*. Whittaker (1984) and(1985) published detailed investigations concerning the larvae and foodplants of ***A. halesus***, Mistletoe (***Phoradendron sp***) in the state of Texas. ***A. halesus*** was not mentioned by Hine (1904), Hine (1906), Montgomery (1932), Lambremont and Ross (1965), Mather and Mather (1959), Mather (1966) or Brou (1974).

Acknowledgements

We thank Charles Allen, Selena Dawn McMillian and Ricky Patterson for their helpful input.

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Dear SLS Members: Please send me photos of butterflies/moths or photos that have some relationship to butterflies/moths that I can use for Fill in the Newsletter. The following photo is of 3 feral cats in my backyard that I feed every day. The only relationship that these cats have to butterflies/moths is that they like to chase them especially at night when I have a black light on the house and when a large moth lands on the sheet.

Mother and 2 of her kittens noonday snooze

"ME TOO," BUT "ELEPHANT – RHINO"

BY
HOWARD GRISHAM

September 1, 2022

I was looking at the current N.A.B.A. magazine last night, and read a series of inputs from persons in the northeast, lamenting a perceived shortage of butterflies, especially "better butterflies." I have noted the same scenario, on my properties and elsewhere, here in northeast Alabama. Although abundant species, such as monarchs, buckeyes, *Papilios glaucus* and *troilus*, and *Battus philenor*, remain so, I have not been seeing much in the way of less common and rare butterfly species the last couple of years. For instance, orange tips, great spangled's, West Virginia whites, *Amblyscirtes hegon* and *aesculapius*, all very common a few years back, are now uncommon to rare. Formerly rare but reliable species (in my area), such as American coppers, *dianas*, our version of *hobomok* skippers, and Baltimores, I have not seen at all for the last couple of years.

Not just butterflies. *Catocala* appear down something like eighty per cent. "Hundreds per night" beetle genera, such as *Serica* and *Phyllophaga*, appear likewise reduced in numbers. I haven't seen a single caterpillar hunter (three formerly common species here) this summer. Not a single *Cicindela unipunctata*, and reduced numbers of the formerly ridiculously common *C. sexguttata*. Bumblebees and several Hymenopterous bees and wasps are not seen as much as ten years ago.

I maintain approximately 100 large tin pieces which I have set out on my properties, as a means of observing snakes and collecting carabids. Other than a few racers and a couple of copperheads, I have not seen a single example of any large snake species under tin this season, and even formerly common carabid species have essentially disappeared, much less treasures, such as *Scaphinotus*.

So, what is happening? Hell if I know (elephant-rhino). The properties I own and collect on are generally mature deciduous forests on mountain land, and adjoining fields and meadows. No pesticide issues, leastways not direct ones. Fire ants generally do not occur in wooded mountains, but they are present in fields and meadows. No lawn maintenance issues. No nearby construction or development events. Maybe it has been a bit warmer here generally, but plenty of rainfall. Red oaks are dying out some, but the other trees appear most healthy. Deer are rampant, and likely affect Lep populations somewhat, but I have yet to see one eat a snake or carabid. Geriatric issues setting in on my perception abilities? Yeah, likely so.

My professional training lies outside the subject matter of this hopefully not-too-pompous pontification, but I was also reading last night Jeff Glassberg's editorial at the beginning of his aforementioned N.A.B.A. magazine. If I understand him correctly, Jeff thinks there are way too many PEOPLE. Likely a lost cause, but right on!

(Howard Grisham, E-Mail: howardgrisham@gmail.com)

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DIVERSITY AND RELATIVE ABUNDANCE OF BUTTERFLIES IN A SUBURBAN LANDSCAPE OF SUWANNEE COUNTY, NORTHERN FLORIDA

BY

MARC C. MINNO

INTRODUCTION

I worked for Suwannee River Water Management District (SRWMD) in Live Oak, Florida from April 1, 2013 until August 31, 2022. Live Oak is located in north-central Suwannee County. It is the largest city in the County with about 7,000 residents.

The SRWMD office is located on the southwestern corner of the junction of US Highway 90 and County Road 49 on a 12 acre parcel on the eastern edge of Live Oak (Fig. 1). The four buildings, driveways, and parking areas plus low maintenance landscaping and lawn take up about 4.5 acres of the parcel. However, the northern area of the property has a secondary forest of oaks, a few pines, and other trees. A small east-west oriented powerline divides the forest into north and south sections. The powerline corridor is about 40 feet wide. Adjacent to the forest is a 1.5 acre pond with cypress trees (*Taxodium ascendens*) in the deeper water and buttonbush (*Cephalanthus occidentalis*) around the fringe. The pond has a mixture of duckweed (*Lemna* sp.), mosquito fern (*Azolla filiculoides*), watermeal (*Wolffia* sp.), and mudmidget (*Wolffiella* sp.) floating on the surface.

Much of the native vegetation of Suwannee County was cleared long ago to create farms and plantations of pine trees. It is a karstic landscape with limestone outcrops, sinkholes, caves, springs, and disappearing/reappearing rivers in places. The natural pond at SRWMD is in a sink feature. Little has been written about the butterflies of this interesting region of Florida.

METHODS

I kept notes about the butterflies that I observed during breaks and lunch hours at SRWMD. In May 2018 the SRWMD land management staff created a walking trail through the forest on the property (Fig. 1). Since the habitat was more natural there I concentrated my observations along the trail starting June 1, 2018. I wrote down the time spent searching, weather conditions, the species and numbers of butterflies seen, host plants, flowers visited, and other information. I usually looked for butterflies about 10 minutes each time between 10:00 to 11:00 in the morning and 3:00 to 4:00 in the afternoon, time and weather permitting. Sampling was interrupted from March 19 through November 11, 2020 due to covid pandemic lockdown. During several workshops at SRWMD in 2018-2019 I trained staff on plant identification as we inventoried the plant species on the property.

I made a total of 1,005 surveys for butterflies along the SRWMD nature trail on 569 days for a total of about 145 hours of observation. 511 surveys totaling 73.4 hours of observation were made in the morning and 494 totaling 71.5 hours were made in the afternoon. Table 1 shows the total number of trail surveys by month and time of day. Table 2 shows the total hours of observation by month and time of day. On the main grounds I made observations on 321 days for a total of about 55 hours of observation.

VEGETATION RESULTS

The Atlas of Florida Plants has specimen information for 808 native and naturalized plant species from Suwannee County (Wunderlin *et al.*, 2022). We found at least 233 species of plants of 85 families growing at SRWMD including 129 kinds of herbaceous plants, 37 trees, 22 shrubs, 19 vines, 4 palms, and 22 grasses, sedges, and rushes. The flora consisted of 9 pteridophytes, 8 gymnosperms, 47 monocots, and 169 dicots. 26 species of trees and shrubs, both native and exotic, were planted as landscape ornamentals. More than a quarter of the plants (64 spp.) were not native to northern Florida. About 25% of the plant species were potential larval host plants for butterflies.

BUTTERFLY SURVEY RESULTS

I observed 61 species of butterflies and tallied 10,496 adults during my surveys on the nature trail. I found seven other species only on the main grounds for a total of 68 species. I tallied a total of 1,227 adult butterflies on the main grounds. The most abundant species seen at SRWMD were *Hermeuptychia* spp. with 3,182 tallied, *Heliconius charithonia tuckeri* with 2,139 tallied, and *Agraulis incarnata nigrior* with 1,406 tallied. Appendix 1 lists detailed information about each of the butterfly species.

Other common butterflies included the pierids *Abaeis nicippe*, *Eurema daira*, and *Phoebis sennae*; the hesperiids *Cecropterus dorantes*, *Urbanus proteus*, *Burnsius oileus*, *Erynnis horatius*, and *Euphyes vestris*; the lycaenid *Calycopis cecrops*, and the papilionid *Pterourus troilus*.

The powerline was the richest area for butterflies. The vegetation there was mowed every year or two and a number of butterfly host plants such as Passionflower (*Passiflora incarnata*), Pawpaw (*Asimina angustifolia*), Partridgepea (*Chamaecrista fasciculata*), Ticktrefoil (Desmodium paniculatum), Butterfly Pea (*Centrosema virginianum*), Hammock Sedge (Carex fissa), and others as well as nectar plants including Spanish Needles (*Bidens alba*), Dotted Horsemint (*Monarda punctata*), and Butterflyweed (*Asclepias tuberosa*) occurred there.

In contrast some butterfly species stayed mostly within the forest including the hesperiids *Epargyreus clarus* and *Lon zabulon*; the lycaenids *Calycopis cecrops* and *Parrhasius m-album*; and the nymphalids *Limenitis arthemis astyanax*, *Polygonia interrogationis*, and *Hermeuptychia* spp.

There was one area of the powerline (shown by the white star on Fig. 1), where the western segment of the nature trail crossed it, that was often frequented by various kinds of perching male butterflies, especially *Euphyes vestris* in the morning and *Vanessa atalanta* in the afternoon and occasionally *Battus philenor*, *Papilio polyxenes asterius*, and *Anaea andria*. There seemed to be nothing special about this place except that the land sloped gently downward to the east and perhaps the butterflies perceived the area as something like a hilltop.

DISCUSSION

This study revealed a relatively rich diversity of butterfly species (68) in a north Florida area of mixed land use and land cover. This represents about half of the butterfly species that have been observed breeding in northern Florida. SRWMD first developed the Live Oak property in 1980. Currently in the vicinity are utility lines, highways, drainage ditches, a railroad, single family residences, businesses, an old field, and wood lots. Even a rare butterfly in Florida, *Nymphalis antiopa*, was observed on the property.

Although some of the butterflies on the property were relatively abundant at times, many were only passing through while dispersing to other places. After more than nine years of observation some 26 species (38%) were only seen one or a few times. 14 species were documented breeding on the SRWMD property and another 17 may breed there at least occasionally.

An interesting finding was that the Spicebush Swallowtail was much more prevalent on the property than the Palamedes Swallowtail. This may be an indication of decline in the Palamedes Swallowtail in this area due to the impact of the laurel wilt disease on its bay tree larval host plants, *Persea* spp. (Minno, 2007). Most large bay trees in Suwannee County have died of laurel wilt disease. I did not observe any bay trees on the SRWMD property. However, the exotic camphortree (*Cinnamomum camphora*), which is a favored host of the Spicebush Swallowtail, is commonly invading and naturalized in the forested areas.

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MONTH	AM	PM	TOTALS
Jan	44	43	87
Feb	45	48	93
Mar	46	45	91
Apr	35	33	68
May	31	36	67
Jun	42	38	80
Jul	49	39	88
Aug	42	33	75
Sep	43	44	87
Oct	46	47	93
Nov	48	48	96
Dec	40	40	80
TOTALS	511	494	1005

Table 1. Number of surveys by month and time of day at SRWMD nature trail in Live Oak, Florida from 6/1/2018 to 8/31/2022.

MONTH	AM	PM	TOTALS
Jan	4.5	5.0	9.5
Feb	5.5	6.3	11.8
Mar	6.8	6.8	13.6
Apr	5.1	5.0	10.1
May	4.7	5.6	10.3
Jun	6.6	5.8	12.4
Jul	7.2	5.5	12.7
Aug	6.5	5.0	11.4
Sep	7.3	7.5	14.8
Oct	7.8	7.8	15.6
Nov	7.1	6.4	13.6
Dec	4.4	4.7	9.1
TOTALS	73.4	71.5	144.9

Table 2. Hours of observation by month and time of day at SRWMD nature trail in Live Oak, Florida from 6/1/2018 to 8/31/2022.

Figure 1. Upper image is an aerial view of the Suwannee River Water Management District property (red line) in Live Oak, Florida. The nature trail is indicated by the green line. An area often frequented by perching male butterflies is indicated by the white star. Lower left is a view of the powerline habitat looking west from the eastern side of the Nature Trail. Lower right is an image of the trail within the forest.

Appendix 1. Butterflies observed at Suwannee River Water Management District in Live Oak, Suwannee County, Florida from April 2013 through August 2022. Nomenclature generally follows Pelham (2022) with some updates as noted and personal preference deviations.

FAMILY HESPERIIDAE

SUBFAMILY EUDAMINAE (Broad-winged Skippers)

Cecropterus confusis (E. Bell, 1923) Confused Cloudywing
Li *et al.* (2019) transferred this species from *Thorybes* to *Cecropterus*.
ABUNDANCE: Only 4 seen on 4 days along the nature trail.
FLOWERS VISITED: *Chamaecrista fasciculata*.
HOST PLANTS: At least three *Desmodium* sp. occur on the property that may serve as hosts.
OCCURRENCE: Apr., Jun.-Aug.

Cecropterus dorantes dorantes (Stoll, 1790) Dorantes Skipper
Li *et al.* (2019) transferred this species from *Urbanus* to *Cecropterus*. Pelham (2022) lists it as *Thorybes dorantes*.
ABUNDANCE: 123 seen on 45 days along the nature trail plus 10 seen on 4 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Symphyotrichum pilosum*.
HOST PLANTS: At least three *Desmodium* sp. occur on the property that may serve as hosts.
OCCURRENCE: Jan., Sep.-Dec.
NOTE: Males sometimes perched on the leaves of trees and shrubs in the forest and made circling flights around the perch area.

Epargyreus clarus clarus (Cramer, 1775) Silver-spotted Skipper
ABUNDANCE: 5 seen on 5 days along the nature trail plus 5 seen on 5 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Cephalanthus occidentalis*, *Mitchella repens*.
HOST PLANTS: At least three *Desmodium* sp. occur on the property that may serve as hosts.
OCCURRENCE: Mar., Apr.-Aug.

Urbanus proteus proteus (Linnaeus, 1758) Long-tailed Skipper
ABUNDANCE: 156 seen on 95 days along the nature trail plus 16 seen on 12 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Mitchella repens*, *Solidago leavenworthii*, *Trichostema dichotomum*.
HOST PLANTS: Larvae were found on *Centrosema virginiana* and *Desmodium paniculatum*.
OCCURRENCE: Jan.-Feb., Apr.-Dec.

SUBFAMILY HESPERIINAE (Grass Skippers)

Anatrytone logan logan (W. H. Edwards, 1863) Delaware Skipper
Only 1 seen on Aug. 30, 2021 visiting *Bidens alba* flowers along the nature trail.

Atalopedes campestris huron (W. H. Edwards, 1863) Sachem
Only 1 seen on Sep. 13, 2019 along the nature trail.

Copaeodes minima (W. H. Edwards, 1870) Southern Skipperling
Only 1 seen on Sep. 3, 2019 along the nature trail.

Euphyes vestris metacomet (T. Harris, 1862) Dun Skipper
ABUNDANCE: 277 seen on 147 days along the nature trail.
FLOWERS VISITED: *Bidens alba*, *Mitchella repens*, *Spermacoce remota*.
HOST PLANTS: Larvae were found on *Carex fissa* var. *aristata* along the powerline.
OCCURRENCE: Feb.-Nov.
NOTE: Males were often seen at the perching area (Fig. 1).

Hylephila phyleus phyleus (Drury, 1773) Fiery Skipper
ABUNDANCE: 20 seen on 19 days along the nature trail plus 8 seen on 4 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Centrosema virginiana*.
HOST PLANTS: Several kinds of grasses on the property may serve as hosts.
OCCURRENCE: Jan.-Mar., Aug.-Dec.

Lerema accius (J. E. Smith, 1797) Clouded Skipper
ABUNDANCE: 42 seen on 37 days along the nature trail plus 4 seen on 2 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Centrosema virginiana*.
HOST PLANTS: Several kinds of grasses on the property may serve as hosts.
OCCURRENCE: Jan.-Mar., May, Jul.-Dec.

Lerodea eufala eufala (W. H. Edwards, 1869) Eufala Skipper
Only 1 seen on Sep. 5, 2019 along the nature trail.

Lon zabulon (Boisduval & Le Conte, [1837]) Zabulon Skipper
Cong *et al*. (2019) transferred this species from the genus *Poanes* to *Lon*.
ABUNDANCE: Only 3 seen on 3 days along the nature trail.
FLOWERS VISITED: *Mitchella repens*.
OCCURRENCE: Mar.-Apr.

Nastra lherminier (Latreille, [1824]) Swarthy Skipper
Only 1 seen on Apr. 3, 2019 along the nature trail.

Nastra neamathla (Skinner & R. Williams, 1923) Neamathla Skipper
Only 1 seen on May 12, 2021 along the nature trail.

Oligoria maculata (W. H. Edwards, 1865) Twin-spot Skipper
ABUNDANCE: 5 seen on 5 days along the nature trail.
FLOWERS VISITED: *Ipomoea pandurata*.
OCCURRENCE: Aug.-Oct.

Panoquina ocola ocola (W. H. Edwards, 1863) Ocola Skipper
ABUNDANCE: 20 seen on 14 days along the nature trail plus 10 seen on 10 days on the main grounds.
FLOWERS VISITED: *Bidens alba*.
OCCURRENCE: Apr., Jun., Sep.-Dec.

Polites (*Hedone*) *vibex vibex* (Geyer, 1832) Whirlabout
ABUNDANCE: 72 seen on 48 days along the nature trail plus 2 seen on 2 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Centrosema virginiana*, *Oxalis debilis*, *Salvia lyrata*, *Symphyotrichum pilosum*.
OCCURRENCE: Mar.-Dec.

Polites (*Wallengrenia*) *egeremet* (Scudder, 1863) Northern Broken-Dash
Only 1 seen on Oct. 9, 2019 along the nature trail.

Polites (*Wallengrenia*) *otho otho* (J. E. Smith, 1797) Southern Broken-Dash
ABUNDANCE: Only 4 seen on 4 days along the nature trail.
OCCURRENCE: Sep. and Oct.

SUBFAMILY PYRGINAE (Spread-winged Skippers)
Burnsius albescens (Plötz, 1884) White Checkered-Skipper
Li *et al*. (2019) transferred this species from *Pyrgus* to *Burnsius*.
ABUNDANCE: 8 seen on 7 days along the nature trail plus 2 seen on 2 days on the main grounds.
HOST PLANTS: *Sida rhombifolia* occurs on the property and may serve as a host.
OCCURRENCE: Jun.-Jul., Sep.-Nov.

Burnsius oileus (Linnaeus, 1767) Tropical Checkered-Skipper
Li *et al*. (2019) transferred this species from *Pyrgus* to *Burnsius*.ABUNDANCE: 498 seen on 237 days along the nature trail plus 6 seen on 6 days on the main grounds.FLOWERS VISITED: *Bidens alba*, *Cnidoscolus stimulosus*.
HOST PLANTS: *Sida rhombifolia* occurs on the property and may serve as a host.
OCCURRENCE: Jan.-Dec.

Erynnis horatius (Scudder & Burgess, 1870) Horace's Duskywing
ABUNDANCE: 132 seen on 87 days along the nature trail plus 6 seen on 6 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Cantinoa mutabilis*, *Houstonia procumbens*, *Oenothera simulans, Prunus caroliniana, Rubus trivialis*.
HOST PLANTS: Oviposition and larvae were observed on *Quercus laurifolia*.
OCCURRENCE: Feb.-Oct.

Erynnis zarucco (Lucas, 1857) Zarucco Duskywing
Only 1 seen on Oct. 18, 2018 visiting *Bidens alba* flowers along the nature trail.

FAMILY PAPILIONIDAE
SUBFAMILY PAPILIONINAE (SWALLOWTAILS)
Battus philenor philenor (Linnaeus, 1771) Pipevine Swallowtail
ABUNDANCE: 40 seen on 37 days along the nature trail plus 9 seen on 9 days on the main grounds.
FLOWERS VISITED: *Bidens alba*.
OCCURRENCE: Feb.-Jun., Aug.-Oct.

Eurytides marcellus floridensis (Klots, 1951) Zebra Swallowtail
ABUNDANCE: 30 seen on 28 days along the nature trail plus 24 seen on 24 days on the main grounds.
HOST PLANTS: Oviposition was observed on *Asimina angustifolia* on July 5, 2018 and July 2, 2019.
OCCURRENCE: Feb.-Sep.

Heraclides cresphontes (Cramer, 1777) Giant Swallowtail
ABUNDANCE: 51 seen on 45 days along the nature trail plus 29 seen on 29 days on the main grounds.
FLOWERS VISITED: *Bidens alba*.
HOST PLANTS: None observed on the property.
OCCURRENCE: Feb.-Nov.

Papilio polyxenes asterius (Stoll, 1782) Black Swallowtail
ABUNDANCE: 7 seen on 7 days along the nature trail plus 5 seen on 5 days on the main grounds.
HOST PLANTS: *Cyclospermum leptophyllum* may sometimes serve as a host.
OCCURRENCE: Mar.-Jun.

Pterourus glaucus maynardi (Gauthier, 1984) Eastern Tiger Swallowtail
ABUNDANCE: 47 seen on 40 days along the nature trail plus 50 seen on 44 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Prunus carolinana*.
HOST PLANTS: On Jun. 28, 2018 a female was observed laying eggs on the leaves near the top of a 25 foot tall *Prunus serotina* in the forest. *Magnolia virgininana* also occurs on the property and may serve as a host.
OCCURRENCE: Feb.-Oct.
NOTE: Black form females were seen on several occasions.

Pterourus palamedes palamedes (Drury, 1773) Palamedes Swallowtail
ABUNDANCE: 14 seen on 12 days along the nature trail plus 9 seen on 9 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Erigeron strigosa*.
HOST PLANTS: *Persea* spp. were not observed on the property.
OCCURRENCE: Mar., May-Jun., Aug.-Oct.

Pterourus troilus troilus (Linnaeus, 1758) Spicebush Swallowtail
ABUNDANCE: 219 seen on 141 days along the nature trail plus 60 seen on 52 days on the main grounds.
FLOWERS VISITED: *Asclepias tuberosa*, *Monarda punctata*, *Salvia lyrata*.
HOST PLANTS: Larvae were found on *Cinnamomum camphora* several times.
OCCURRENCE: Feb.-Oct.

FAMILY PIERINDAE
SUBFAMILY COLIADINAE (Sulphurs)

Abaeis nicippe (Cramer, 1779) Sleepy Orange
ABUNDANCE: 130 seen on 88 days along the nature trail plus 79 seen on 69 days on the main grounds.
FLOWERS VISITED: *Bidens alba.*
HOST PLANTS: Not observed.
OCCURRENCE: Jan.-Dec.
NOTE: Winter form adults were seen in Oct. and Nov.

Eurema daira daira (Godart, 1819) Barred Yellow
ABUNDANCE: 844 seen on 171 days along the nature trail plus 26 seen on 23 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Houstonia procumbens*, *Oxalis corniculata*, *Rubus trivialis*, *Salvia lyrata*, *Trichostema dichotomum*, *Vicia sativa.*
HOST PLANTS: A favored host plant, *Aeschynomene americana*, grows nearby in ditches along US-90.
OCCURRENCE: Jan.-Apr., Jul.-Dec.
NOTE: Winter form adults were seen from late Sep. until early Mar.

Nathalis iole iole Boisduval, 1836 Dainty Sulphur
Only 2 were seen (May 5 and 9, 2022) along the nature trail, perhaps the same individual, plus 1 was seen on the main grounds on Nov. 30, 2016.

Phoebis philea philea (Linnaeus, 1763) Orange-barred Sulphur
Only 1 seen on Oct. 11, 2019 on the main grounds.

Phoebis sennae eubule (Linnaeus, 1767) Cloudless Sulphur
ABUNDANCE: 545 seen on 220 days along the nature trail plus 475 seen on 166 days on the main grounds.
FLOWERS VISITED: *Asclepias tuberosa*, *Bidens alba*, *Gelsemium sempervirens*, *Monarda punctata*, *Salvia lyrata.*
HOST PLANTS: Several females were seen ovipositing on *Chamaecrista fasciculata.*
OCCURRENCE: Jan.-Dec.

Pyrisitia lisa lisa (Boisduval & Le Conte, [1830]) Little Yellow
ABUNDANCE: 23 seen on 22 days on the nature trail.
FLOWERS VISITED: *Bidens alba.*
HOST PLANTS: *Chamaecrista fasciculata* grows along the powerline and may serve as a host.
OCCURRENCE: Jan., Mar., May-Nov.

Zerene cesonia cesonia (Stoll, 1790) Southern Dogface
Only 1 seen on June 3, 2019 on the main grounds.

SUBFAMILY PIERINAE (Whites)

Pontia protodice (Boisduval & Le Conte, [1830]) Checkered White
ABUNDANCE: 14 seen on 14 days on the main grounds.
OCCURRENCE: Mar.-Jul., Sep., Nov.
NOTE: Sometimes commonly seen along US-90 and County Road 49 roadsides.

FAMILY LYCAENIDAE
SUBFAMILY THECLINAE (Hairstreaks)

Atlides halesus halesus (Cramer, 1777) Great Purple Hairstreak
ABUNDANCE: Only 1 seen along the nature trail plus 5 seen on 5 days on the main grounds.
FLOWERS VISITED: *Bidens alba.*
HOST PLANTS: *Phoradendron leucarpum* grows on oaks and other trees on the property and is likely used as a host.
OCCURRENCE: Jun., Sep.-Nov.

Callophrys (*Mitoura*) *gryneus sweadneri* (F. Chermock, 1945) Sweadner's Juniper Hairstreak
ABUNDANCE: 6 seen on 4 days on the nature trail plus 6 seen on 6 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Cercis canadensis*, *Houstonia procumbens*.
HOST PLANTS: *Juniperus virginiana,* has been planted on the main grounds and is naturalized in the forest, likely is used.
OCCURRENCE: Mar., May, Sep.

Calycopis cecrops (Fabricius, 1793) Red-banded Hairstreak
ABUNDANCE: 223 seen on 122 days along the nature trail plus 10 seen on 9 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Prunus caroliniana*, *Solidago leavenworthii*.
HOST PLANTS: Females sometimes perched on the ground where they were perhaps laying eggs.
OCCURRENCE: Jan.-Dec.

Parrhasius m-album (Boisduval & Le Conte, [1833] White-M Hairstreak
ABUNDANCE: 13 seen on 8 days along the nature trail.
HOST PLANTS: *Quercus laurifolia*, *Quercus nigra*, and *Quercus virginiana* occur on the property and may serve as hosts.
OCCURRENCE: Mar., May-Sep.
NOTE: Several times I found adults perching on or near the ground as does *Calycopis cecrops*.

Strymon melinus melinus Hübner, 1818 Gray Hairstreak
ABUNDANCE: 5 seen on 6 days along the nature trail plus 1 seen on the main grounds.
FLOWERS VISITED: *Bidens alba*.
HOST PLANTS: A female was seen ovipositing on *Chamaecrista fasciculata* flower buds and a 3rd instar larva was found on the flowers of *Rumex hastatulus* growing along the powerline.
OCCURRENCE: Apr., Jul., Dec.

SUBFAMILY POLYOMMATINAE (Blues)
Celastrina negecta (W. H. Edwards, 1862) Summer Azure
Only 1 seen on Sep. 11, 2019 visiting *Bidens alba* flowers along the nature trail.

Hemiargus ceraunus antibubastus Hübner, 1818 Ceraunus Blue
ABUNDANCE: 6 seen on 5 days along the nature trail plus 1 seen on the main grounds.
FLOWERS VISITED: *Vicia sativa*.
HOST PLANTS: Several potential hosts such as *Chamaecrista fasciculata* occur on the property.
OCCURRENCE: Jan.-Feb., Oct.-Dec.

Leptotes cassius theonus (Lucas, 1857) Cassius Blue
Only 1 seen on May 16, 2018 flying high up in a flowering *Albizzia julibrissin* on the main grounds.

FAMILY NYMPHALIDAE
SUBFAMILY LIBYTHEINAE (Snout Butterflies)
Libytheana carinenta bachmanii (Kirtland, 1851) American Snout
ABUNDANCE: 7 seen on 6 days along the nture trail plus 3 seen on 3 days on the main grounds.
FLOWERS VISITED: *Prunus carcoliniana*.
HOST PLANTS: *Celtis laevigata* occurs on the property and may serve as a host.
OCCURRENCE: Jan.-Mar., May, Oct.

SUBFAMILY DANAINAE (Milkweed Butterflies)
Danaus (*Anosia*) *gilippus berenice* (Cramer, 1779) Queen
Only 2 seen (Nov.11, 2014 and Sep. 26, 2017) on the main grounds.

Danaus (Danaus) plexippus plexippus (Linnaeus, 1758) Monarch
ABUNDANCE: Only 2 seen on 2 days along the nature trail plus 7 seen on 7 days on the main grounds.
HOST PLANTS: *Asclepias tuberosa* occurs on the property and may serve as a host.
OCCURRENCE: Mar., Apr., Sep.-Nov.

SUBFAMILY HELICONIINAE (Passionflower Butterflies)
Agraulis incarnata nigrior Michener, 1942 Gulf fritillary
Formerly known as *Agraulis vanillae nigrior* and sometimes placed in the genus *Dione* (see Núñez *et al*., 2022).
ABUNDANCE: 1,278 seen on 275 days along the nature trail plus 128 seen on 75 days on the main grounds.
FLOWERS VISITED: *Asclepias tuberosa*, *Bidens alba*, *Cantinoa mutabilis*, *Monarda punctata*, *Oenothera simulans*, *Passiflora incarnata*.
HOST PLANTS: Oviposition and larvae were observed on *Passiflora incarnata* growing along the powerline.
OCCURRENCE: Jan.-Dec.

Euptoieta claudia (Cramer, 1775) Variegated Fritillary
ABUNDANCE: 16 seen on 14 days along the nature trail plus 1 seen on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Oenothera simulans*.
HOST PLANTS: Several females were seen ovipositing on *Passiflora incarnata* growing along the powerline.
OCCURRENCE: May-Aug.

Heliconius charithonia tuckeri W. Comstock & F. Brown, 1950 Zebra Heliconian
ABUNDANCE: 2,075 seen on 296 days along the nature trail plus 64 seen on 60 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Cantinoa mutabilis*, *Chamaecrista fasciculata*, *Lantana strigocamara*, *Monarda punctata*.
HOST PLANTS: Oviposition and larvae were observed on *Passiflora incarnata* growing along the powerline.
OCCURRENCE: Jan.-Dec.
NOTE: On Dec 12, 2021 I found a roost with 18 adults about 15 feet high in a laurel oak tree in the forest. The weather was cloudy and cool during the day. They disappeared several days later after a particularly cold night.

SUBFAMILY LIMENITIDINAE (Admirals)
Limenitis archippus floridensis Strecker, 1878 Viceroy
ABUNDANCE: 15 seen on 14 days along the nature trail plus 16 seen on 16 days on the main grounds.
FLOWERS VISITED: *Bidens alba*.
HOST PLANTS: *Salix nigra* occurs on the property and may serve as a host.
OCCURRENCE: Mar.-Oct.

Limenitis arthemis astyanax (Fabricius, 1775) Red-spotted Purple
ABUNDANCE: 62 seen on 52 days along the nature trail plus 16 seen on 16 days on the main grounds.
FLOWERS VISITED: *Bidens alba*.
HOST PLANTS: Several females were seen ovipositing on the leaves of *Prunus serotina*.
OCCURRENCE: Mar.-Nov.

SUBFAMILY APATURINAE (Emperors)
Asterocampa celtis reinthali Friedlander, 1987 Hackberry Emperor
Only 1 seen on Nov. 3, 2021 along the nature trail.

Asterocampa clyton flora (W. H. Edwards, 1876) Tawny Emperor
ABUNDANCE: 7 seen on 7 days along the nature trail plus 1 on the main grounds.
HOST PLANTS: *Celtis laevigata* occurs on the property and may serve as a host.
OCCURRENCE: Apr.-May, Jul.-Aug., Oct.

SUBFAMILY NYMPHALINAE (Brush-footed Butterflies)
Anartia jatrophae guantanamo Munroe, 1942 White Peacock
ABUNDANCE: 2 seen on the main grounds.
FLOWERS VISITED: *Bidens alba*.
HOST PLANTS: *Phyla nodiflora* occurs on the property and may serve as a host.
OCCURRENCE: Oct., Dec.

Junonia coenia coenia Hübner, [1822] Common Buckeye
ABUNDANCE: 91 seen on 56 days along the nature trail plus 29 seen on 25 days on the main grounds.
FLOWERS VISITED: *Bidens alba*.
HOST PLANTS: *Linaria canadensis*, *Phyla nodiflora*, and *Plantago virginica occur* on the property and may serve as hosts.
OCCURRENCE: Feb.-Jun., Aug.-Dec.

Nymphalis antiopa antiopa (Linnaeus, 1758) Mourning Cloak
Only 1 seen on Mar. 17, 2021 along the nature trail.

Phyciodes phaon phaon (W. H. Edwards, 1864) Phaon Crescent
ABUNDANCE: 37 seen on 33 days along the nature trail plus 3 seen on 3 days on the main grounds.
FLOWERS VISITED: *Bidens alba*.
HOST PLANTS: *Phyla nodiflora* occurs on the property and may serve as a host.
OCCURRENCE: Feb.-Apr., Sep.-Dec.

Phyciodes tharos tharos (Drury, 1773) Pearl Crescent
ABUNDANCE: 85 seen on 55 days along the nature trail plus 3 seen on 3 days on the main grounds.
FLOWERS VISITED: *Bidens alba.*
HOST PLANTS: *Symphyotrichum* spp. occur on the property and may serve as hosts.
OCCURRENCE: Jan.-Dec.

Polygonia interrogationis (Fabricius, 1798) Question Mark
ABUNDANCE: 4 seen on 4 days along the nature trail plus 1 seen on the main grounds.
HOST PLANTS: 1 pupa and 1 pupal exuvium were found on the front window sill of the Kirby Building. The only likely host nearby was Chinese Elm (*Ulmus parvifolia*).
OCCURRENCE: Apr., Jul.

Vanessa atalanta rubria (Fruhstorfer, 1909) Red Admiral
ABUNDANCE: 73 seen on 64 days along the nature trail plus 3 seen on 3 days on the main grounds.
HOST PLANTS: None observed on the property.
OCCURRENCE: Jan.-Jun., Oct.-Dec.
NOTE: One or two males were often seen at the perching area (Fig. 1), especially in the afternoon.

Vanessa cardui (Linnaeus, 1758) Painted Lady
Only 1 seen on Sep. 28, 2017 on the main grounds.

Vanessa virginiensis (Drury, 1773) American Lady
ABUNDANCE: 14 seen on 14 days along the nature trail plus 12 seen on 12 days on the main grounds.
FLOWERS VISITED: *Bidens alba*, *Houstonia procumbens*.
HOST PLANTS: Oviposition and larvae were observed on *Gamochaeta* spp. growing on the property.
OCCURRENCE: Jan.-May, Sep., Oct., Dec.

SUBFAMILY CHARAXINAE (Leafwing Butterflies)
Anaea andria Scudder, 1875 Goatweed Leafwing
ABUNDANCE: 13 seen on 12 days along the nature trail plus 1 on the main grounds.
HOST PLANTS: None observed on the property.
OCCURRENCE: Mar.-Aug.

SUBFAMILY SATYRINAE (Satyrs and Woodnymphs)
Hermeuptychia spp. Intricate Satyr/Carolina Satyr
ABUNDANCE: 3,129 seen on 363 days on the nature trail plus 53 seen on 43 days on the main grounds.
FLOWERS VISITED: *Bidens alba.*
HOST PLANTS: *Oplismenus hirtellus* grows in patches in the forest and may serve as a host.
OCCURRENCE: Jan.-Dec.
NOTE: I reared an adult male *Hermeuptychia intricata* Grishin 2014 from an egg and examined the genitalia to confirm the identification. However, the Carolina Satyr, *Hermeuptychia sosybius* (Fabricius, 1793), also likely occurs on the property. I was not able distinguish the two species reliably in the field on my short walks and listed them as *Hermeuptychia* spp. in my notes.

Megisto cymela (Cramer, 1777) Little Wood-Satyr
Only 1 seen on Apr. 26, 2019 along the nature trail. I'm not sure why this forest dweller was not breeding on the property.

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

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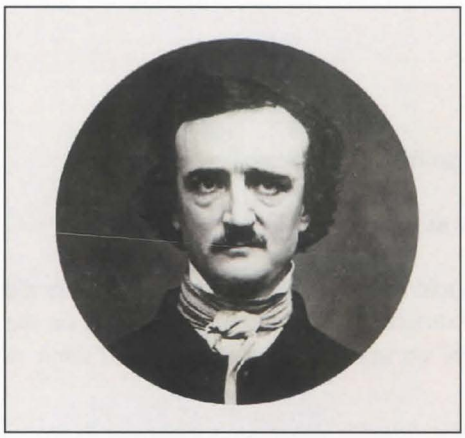
FAIRY- LAND

BY

EDGAR ALLEN POE

Dim vales—and shadowy floods—
And cloudy-looking woods,
Whose forms we can't discover
For the tears that drip all over
Huge moons there wax and wane—
Again—again—again—
Every moment of the night—
Forever changing places—
And they put out the star-light
With the breath from their pale faces.
About twelve by the moon-dial
One, more filmy than the rest
(A kind which, upon trial,
They have found to be the best)
Comes down—still down—and down
With its centre on the crown
Of a mountain's eminence,
While its wide circumference
In easy drapery falls
Over hamlets, over halls,
Wherever they may be—
O'er the strange woods—o'er the sea—
Over spirits on the wing—
Over every drowsy thing—
And buries them up quite
In a labyrinth of light—
And then, how deep!—O, deep!
Is the passion of their sleep.
In the morning they arise,
And their moony covering
Is soaring in the skies,
With the tempests as they toss,
Like—almost any thing—
Or a yellow Albatross.
They use that moon no more
For the same end as before—
Videlicet a tent—
Which I think extravagant:
Its atomies, however,
Into a shower dissever,
Of which those butterflies,
Of Earth, who seek the skies,
And so come down again
(Never-contented things!)
Have brought a specimen
Upon their quivering wings.



Edgar Allen Poe (1809-1849)

Edgar Allen Poe wrote Fairy-Land (originally titled "Heaven") when he was at the United States Military Academy (July, 1830 - March 1831, dismissed after a court martial for neglecting duties and disobeying orders.) At this time in his life he had numerous problems and was gambling and drinking heavenly. Poe describes his poem as a hope for him to have a better life. However, it appears that everybody that reads this difficult poem has a different opinion as to what Poe is trying to say.

Some critics regard "Fairy-Land" as nonsense, others point out his references to the moon in ths sky. Many opinions considered Poe to be mad and Fairy-Land is about "Life and Death". The poem may be about his imagination of his love for nature - again referring to the moon. Or since the poem was originally titled "Heaven" perhaps he was thinking that he may be dying and would soon realize his goal – heaven.

One mistake his readers have made is it is a poem about his dying wife. However, the poem was written in 1829 and he was not married until 1837. The editor of the journal that published Poe's poem thought the poem was "nonsense"

One interesting analysis that I came across was the following: ***"It (the poem) is a poetic statement of his vision of the chaotic, disharmonic world of physical reality and the ability of the imagination through the concept of the Ideal to transcend that disharmony.***" I am not a 100% sure what this means????

In a final thought the last 6 lines of the poem "Fairy-Land" do mention **butterflies**.

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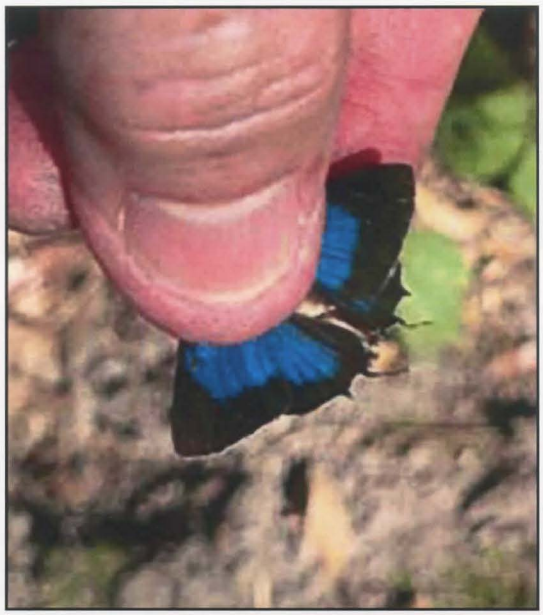
A SUMMER STUDY OF WHITE M HAIRSTREAKS IN LAFAYETTE PARISH, LOUISIANA

BY

CRAIG W. MARKS

The White M Hairstreak (*Parrhasius m-album*) has always been one of my favorite hairstreaks.

Although smaller than the Great Purple Hairstreak, it is larger than all other hairstreaks except possibly female King Hairstreaks. The females are slightly larger than the males. Ventrally, the two sexes look the same. Dorsally, they present a spectacular shade of bright, metallic blue. As hairstreaks perch with their wings closed over their body, that bright blue is typically only seen in flashes while in flight. The females are a darker blue and have a broader black border that can cover more than half of the dorsal forewing.



Dorsal wings, female White M Hairstreak

In my experience, it is typically rare but I have consistently seen specimens each summer since 2003 at one location in within the City of Lafayette (more on that location to come). Other than the one spot in Lafayette, I never know when it will be seen. In the past I found it somewhat regularly at Thistlethwaite, but not of late (which may be a function of my not visiting that location as much as in the past). On one occasion there in May, I saw eleven flying along a deer hunter's trail, perching in the sunlight on high limb tips. I've also found it a couple of time at Indian Bayou WMA. On those occasions, as well as at other locations, I've often found it on the forest floor in deep deciduous woods, typically bottomland habitat. Most recently, in Catahoula National Wildlife Preserve, Grant Parish, on 5/07/20, Jeff Trahan and I found one in some deep woods filled with sweetleaf, flying with several King's Hairstreaks

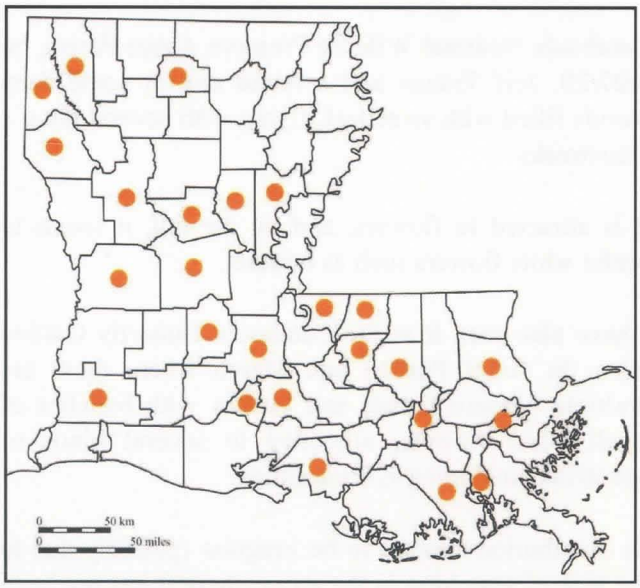
It is attracted to flowers, and, in the fall, it seems to prefer white flowers such as boneset.

I have also seen it at the Catahoula Butterfly Garden (also, in Grant Parish) late March where there are multiple blooming trees and bushes with bunches of small white flowers, attractive to several kinds of hairstreaks including E. Pine Elfins.

Its distribution appears to be irregular (possibly due to the lack of searching in the areas where it has not been recorded) but basically state-wide. Since the publication of my book, several additional records have been reported, and it is now confirmed in 25 parishes (see distribution map below). In North Louisiana, records exist for early March into April, then sporadic sightings from June to November. In the Cen-La region, records are from March to July, including a July sighting during the 2021 Catahoula NWR count in LaSalle Parish. In mid-February 2015, one was seen in the City of Lafayette during an extended warm stretch, but generally, the records for the Acadiana region run from April through September. There are only a few records from southwestern Louisiana which included two sightings at Peveto Woods in Cameron Parish in mid-October.

As part of his studies in the Tunica Hills/E. Feliciana regions, Michael Israel characterized it as rare, with three broods, late March to early April and then late June to early November, found "at the edge of dense forest." He also reported it as present in other parishes along the Mississippi River. In the Florida Parishes, Vernon Brou has suggested it has up to six broods annually, flying from as early as late February/early March through early November. Verbally, he indicated he also had records in January and December, with over 100 collected using ultraviolet light traps at his home and research facility near Abita Springs in St. Tammany Parish. It was recorded twice, both as singles, on the Pearl River Count. It has also shown up occasionally on the New

Orleans Count (June). In extreme southeastern Louisiana, it has been recorded at Galliano and Golden Meadow (April, June and September) and Grand Isle (August). The Golden Meadow sighting was at a uv light.

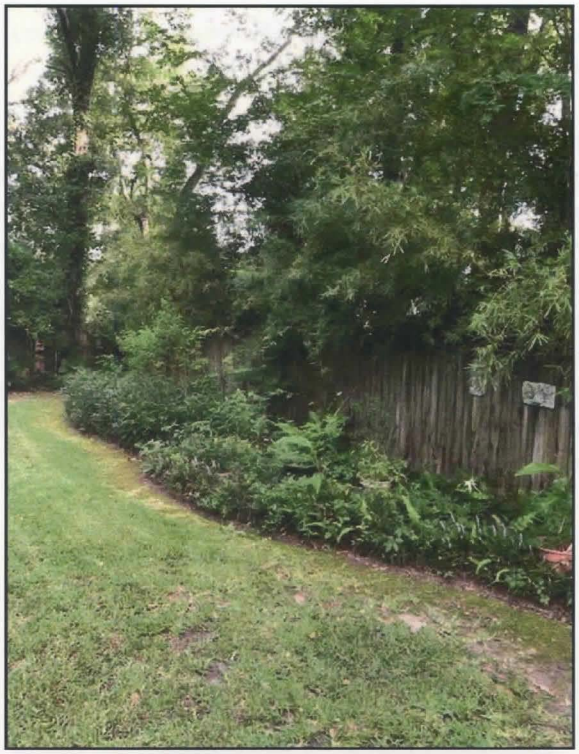


White M Hairstreak Louisiana distribution

This article is primarily about my experiences with this hairstreak at one specific location within the City of Lafayette, Lafayette Parish. Located in the backyard of a home in an older residential section of that City, I've seen 145 individual specimens between 2003 and 2021. That backyard was landscaped between 2001 and 2002, adding several small gardens including one along a fence-line on the south side of the property. The gardens were primarily designed to attract butterflies, serving that purpose successfully with over 51 species recorded during the referenced time frame, but such large numbers of White M Hairstreaks were never anticipated.

As an older and established residential neighborhood, there are a multitude of trees, including several species of oak. Sources within Louisiana have suggested the larval host plants are basswood and oak. In the South, in general, hosts are reported to be just about any species of the oak family, but especially trees with narrow or very lobed leaves. The property in question is surrounded by oaks on virtually every side, including a couple which are in the immediate area of the garden along the fence-line.

That garden is approximately 75' long and 6'deep with the back abutting a wooden fence. It is probably shaded 60% of the day, protected from our hot afternoon summer sun. There are numerous plants included in the garden such as lantana, milkweed, butterfly bushes, one Spicebush, a cumquat tree, pentas, plumago, ironweed, passionvine, canna, cassia and other "odds and ends" that have ended up in that particular garden plot. In the middle of that plot there is a section, about 15' long, filled with Mexican petunias, and it is in that section that the White M's seem to gather.



Full length of garden

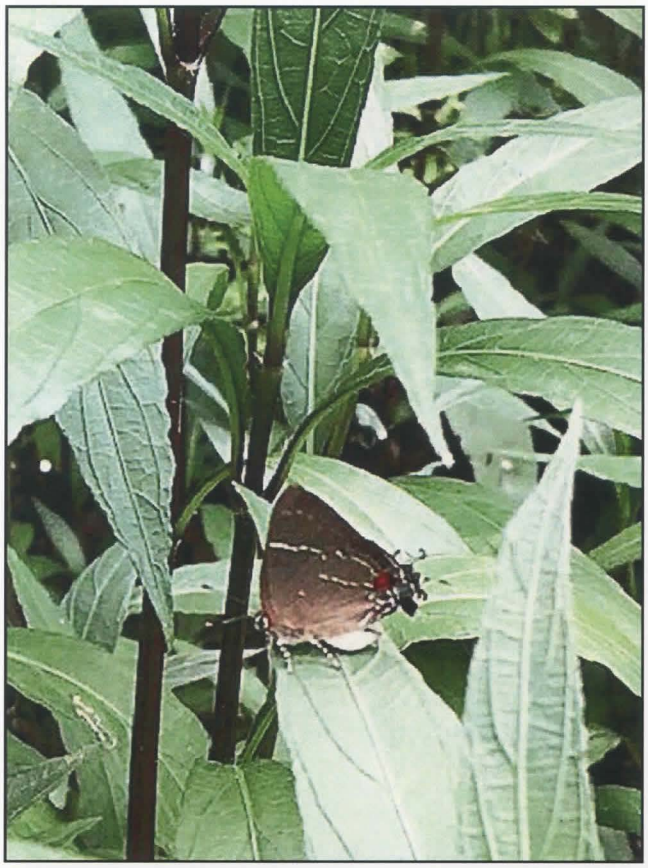
Mexican petunia section preferred by hairstreaks

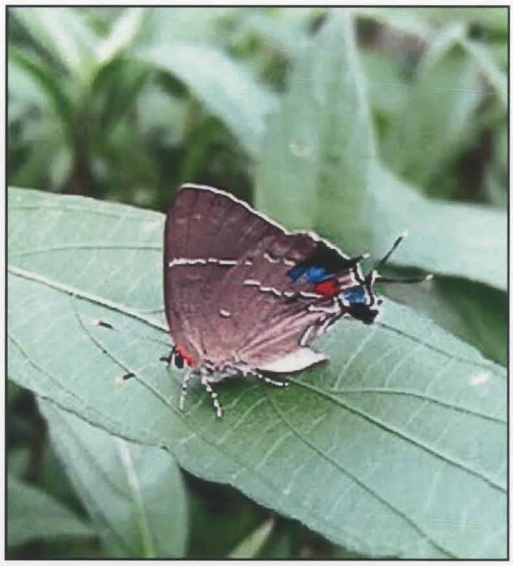
The White M's share this particular plot with Red-banded Hairstreaks (*Calycopis cecrops*), Gulf Fritillaries (*Agraulis vanillae*), Monarchs (*Danaus plexippus*) and Least Skippers (*Ancyloxypha numitor*). This particular plot is allowed to persist without much manicuring. As a result, there is much detritus, particularly toward the backend of the plot. Several sources indicate the caterpillars of the Red-banded Hairstreak eat rotting and decaying leaves, fruits and other detritus on the ground under trees which is why I believe I regularly see this

hairstreak in the plot. The Gulf Fritillaries are attracted by the passionvine that grows in the backend of the plot, and the Monarchs by the tropical milkweed. My suspicion is that the Least Skippers are breeding on the liriope that grows as a border along the outer edge of the plot.

Between 2003 and 2021, my records include May, the earliest being 5/23, through September, the latest being 9/19. During that timeframe I recorded two sightings in May, 18 sightings in June, 31 sightings in July, 24 sightings in August and three sightings in September (with sightings defined as at least one seen in a day). The first week in July and the second week in August had the most sightings/week with 10. The fourth week of July had 9 sightings. There were no sightings in two years (2010 and 2016), 5 years with only one sighting (2003, 2012, 2013, 2014 and 2017) and two years with only two sightings (2006 & 2019). I admit those numbers could be a function of me not monitoring as close as other years. In 2020, there were 17 sightings; in 2005, 10 sightings and in 2004, 9 sightings. The most seen in one day were 7 on 6/30/18 and 5 on 7/15/20.

My initial impression was that most of the specimens I have seen in this garden were males, perched in the afternoon on the leaves of several kinds of plants, but primarily on leaves of the Mexican petunias, at about waist height, both in the sun and shade (see pictures below). They do not necessarily perch on the highest leaves or on leaf-tips, but sometimes are actually down in the petunias, almost out of sight. They will occasionally fly up and dash off with a sudden flash of bright blue, only to return a few seconds later. I am convinced I occasionally see the same individual several days in a row. If undisturbed, some individuals will remain in the garden for hours until they abruptly disappear as the late afternoon turns into evening. As the evening approaches or when greatly disturbed, the hairstreaks fly straight up into the surrounding trees.





White M Hairstreaks perched in Mexican Petunias section of garden

I decided to keep more detailed records in 2022. The first record for that year was on 6/12 with 4 seen, 3 still present at 6:05 pm. One was recorded on the 13th, 2 on the 14th and 2 also on the 15th, still present at 6:15pm. A severe thunderstorm rolled through on the 16th, and I didn't see another one until the 18th, when 4 were recorded. That day, I first saw 3 at 2:45, 4 at 4:00, and 1 still perched at 7:00. On the 19th, I recorded none at 2:00, but by 2:45, there were 3 in the Mexican petunia section with 2 still present at 6:00.

On 6/20, I found 2 at 2:45. Both were females (confirmed by netting). A third (possibly one of the first 2 returned?) was netted at 5:00. It was also a female. I only saw 1 on the 21st, but on the 22nd, there were between 4 and 6. I netted 3 at 5:45, all 3 were females, and all 3 flew straight up into the trees upon release. Ten minutes later there were 3 more perched in the Mexican Petunias, and 1 was clearly new (it was tattered). Five were recorded on the 23rd at 5:45 pm.

On 6/24 at 3:10, 4 were present, all females. There was a light rain between 3:45 & 4:00, and by 4:10, there was 1 back in the garden. It remained until 5:00. On the 25th, the first appeared at 1:10, 2 at 2:05 and 5 at 3:10. At 3:34, there were 4 but 3 had moved out of the Mexican petunia section into the opposing ends of the entire garden. A 5th joined at 4:30, and it also was outside of the Mexican petunia section. Two of the five remained perched in the exact same spot, never moving from 4:30 to 6:00.

June 26th was a busy day. The first was found at 12:35, trapped in a spider's web, valiantly fighting to get free. I gave it some assistance and it flew away. One was present at 2:15, 3 at 2:40, 7 at 3:20 and 9 at 4:10. Of the 9, 2 were in opposite ends of the garden, outside of the Mexican petunia section. The 9 were still there at 4:50, but only one was outside of the normal section. At 6:10, there were still 6 present one on each end and 4 in the Mexican petunias. At times, there would be 2 or 3 perched so close that they had to be visible to each other, yet there were no dogfights of the type which I have seen Banded Hairstreak engage.

6/26/22

6/26/22

All of this activity occurred during a particularly bad heatwave with daily temperatures in the upper 90's and high humidity. During the night of the 26th, another thunderstorm moved through the area, and the following day was mostly clouded with milder temperatures (for south Louisiana in June) in the mid-80's. The high heat and humidity returned on the 28th, and I found one small male at 3:30, the only time I was able to check.

Due to afternoon thunderstorms and then being out of town, I did not check again until 7/04. I found 2 at 12:45. At 1:45, the Mexican petunia/backend of the garden was in direct sunlight, and I found one about 15' away, in the shade along the fence-line at the back of the property. At 2:45, both had moved to the front end of the garden, farther forward that I had ever recorded, perched within inches of each other (see below). At 4:00, there were 4, all in the petunia area, but at 5:40, the 4 had spread out from front to back. In addition to several Red-banded Hairstreaks, there was also a worn Gray Hairstreak perched in the backend of that garden.

July in south Louisiana typically means thundershowers in the afternoon, and due to those afternoon storms, I saw no White M's from 7/05-07. I saw one briefly on 7/08 along the back fence-line, a flash of bright blue as it disappeared into the trees above. There were no storms on the 9th, and I saw 3, the first, a small male, appeared at 12:15, again along the back fence-line. At 2:05, that small male had moved into the Mexican petunias. A second joined at 5:08, and a third at 6:20. There were 2 perched in the petunias at 7:00 and 1 at 7:15.

7/04/2022

July 10 was even busier with 2 found at 4:00, one in the front portion of the garden, and a second in the petunias. The one in the front portion stayed on the same leaf until 7:00. A third appeared at 4:20, and then a fourth at 5:00, one in the front section, one on the petunias and two in the back section. At 7:00, in addition to the one still in the front section, there was a second in the back section. By 7:15, both were gone, but several Red-banded Hairstreaks were still perched.

I was in Colorado between July 11-17. On the 18th, I found one White M in the garden between 4:40 and 6:00. Each time I checked it had moved, starting in the petunia section, then to the back section and finally in the front section. On the 19th I was not able to check until 5:45 at which time there were 4 in the petunia section. Two immediately flew up into the trees. One was perched about 10 inches from a dragonfly. By 6:15, only the one perched near the dragonfly remained, and it was gone by 6:30. At that time, several Red-banded Hairstreaks were still flying in the garden along with two Least Skippers.

I only saw one on 7/20, at 5:40. I apparently startled it, and it flew straight up, but not into the tress above. Instead, it landed about 4' above the petunia section in some cane that overhangs that section of the garden from the other side of the fence along the back of the garden, the first time I've seen one perch in that cane. The hairstreak, a small male, eventually flew back into the petunia section and remained perched there until 6:15, the last time I checked. At 6:00 on the 21st, with thunder rumbling in the background, I found 2 in the petunia section, both of which were gone at 6:15 as a slight sprinkle of rain began.

The area had severe weather on the morning of the 22nd, and I found nothing in the garden that afternoon, not even Red-banded Hairstreaks or dragonflies. On the 23rd, at 11:17 I saw a male flutter down out of the tress into the garden's back section. It was in the petunia section at 12:30 as another storm moved into the area but was gone shortly thereafter. At 10:17 on the 24th, I believe that same male was in the back section of the garden. Startled, it flew up and perched in the overhanging cane. At 11:50, it was perched low in a citrus tree at the extreme end of the garden. At 1:55, it was in the petunia section. At 3:00, it had moved away from the garden and was along the back fence of the property, probably to avoid the sun that was then encompassing the garden. By 4:30, it had returned to the back section of the garden. Still there at 4:55, I saw it fly up into the trees.

And then came the rain. Lafayette experienced heavy afternoon rain between 7/25 and 7/30, and then more rain from 8/01 through 8/04. It is now early September as I finish this article, and I have not seen either a White M or a Red-banded Hairstreak since.

In summary, I recorded 68 sightings in this small area between 6/12 and 7/24/22. I do not suggest that I saw 68 different specimens. There is no doubt in my mind that I saw several individuals across consecutive days. I found it interesting that of these 68 sightings, there were no instances of an individual feeding at any of the numerous available nectar sources (nor do I recall seeing any feeding in past years). It is, therefore, my impression that the behavior noted in this area is solely related to finding a mate, implemented through perching in a location visited by both males and females. That said, I would also note that I did not actually see any mating which, I suspect occurred in the overhanging trees above the garden.

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SPECIMEN LABELS FOR SOUTHEASTERN LEPIDOPTERA, WITH EMPHASIS ON FLORIDA. 2. Pyralidae

BY

J.B. HEPPNER

Name labels for lepidopterans of the Southeast, emphasizing Florida, have been organized at McGuire Center following the Florida checklist (Heppner, 2011), updated to current names. This label list may be useful to collectors to label their specimens and as header labels for species trays or generic sections in their collection. Some genera have been updated to current names (e.g., the European genus *Nephopterix* is now *Scotia* for North American species). This second part is for the family Pyralidae, retained herein as a single family using 'Group' names for the first division (Heppner, 2005, 2011), other families to follow. Species numbers follow the MONA (Hodges *et al.*,1983) catalog numbering sequence still commonly used in collections, but for Pyralidae the users should be aware that the subfamilies have been rearranged since the 1983 catalog. Some specialists prefer to split the family into two families, beginning with the crambines (with Crambinae coming before Scopariinae and others) and going to spilomelines, as a separate 'family,' leaving only a restricted 'Pyralidae' (subfamilies Galleriinae to Phycitinae) (Léger *et al.*, 2020; Regier *et al.*. 2012; Scholtens and Solis, 2015). The current subfamily arrangement is listed below, including exotic subfamilies (Nymphulinae is used instead of Acentropinae).

Readers can copy the species label listing from these pages, moving the subfamilies to their current placement in their collection, or request a computer file from the author.

Group Crambinina
- Crambinae
- Erupinae
- Lathrotelinae
- Scopariinae
- Heliothelinae
- Hoploscopinae
- Musotiminae
- Midilinae
- Schoenobiinae
- Nymphulinae
- Glaphyriinae
- Evergestinae
- Odontiinae
- Linostinae
- Pyraustinae
- Spilomelinae

Group Pyralinina
- Galleriinae
- Chrysauginae
- Pyralinae
- Epipaschiinae
- Phycitinae

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PYRALIDAE

Group
CRAMBININA

SCOPARIINAE

SCOPARIA
Scoparia 4716
biplagialis
Walker, [1866]

Scoparia 4719
basalis
Walker, [1866]

Scoparia 4720
dominicki
Munroe, 1972

EUDONIA
Eudonia 4738
strigalis
(Dyar, 1906)

Eudonia 4739
heterosalis
(McDunnough, 1961)

MUSOTIMINAE

UNDULAMBIA
Undulambia 4740
striatalis
(Dyar, 1906)

Undulambia 4741
polystichalis
Capps, 1965

Undulambia 4742
rarissima
Munroe, 1972

AUSTROMUSOTIMA
Austromusotima 4742.1
camptozonale
(Hampson, 1897)

NEOMUSOTIMA
Neomusotima 4742.2
conspurcatalis
(Warren, 1896)

NYMPHULINAE

NYMPHULINI

NEOCATACLYSTA
Neocataclysta 4743
magnificalis
(Hübner, 1796)

CHRYSENDETON
Chrysendeton 4744
medicinalis
Grote, 1881)

Chrysendeton 4745
kimballi
Lange, 1956

Chrysendeton 4746
imitabilis
(Dyar, 1917)

Chrysendeton 4746.1
nigrescens
Heppner, 1991

MUNROESSA
Munroessa 4748
iccinsalis
(Walker, 1859)

Munroessa 4749
faulalis
(Walker, 1859)

Munroessa 4750
nebulosalis
(Fernald, 1887)

Munroessa 4751
gyralis
(Hulst, 1886)

CONTIGER
Contiger 4752
vittatalis
(Dyar, 1906)

NYMPHULIELLA
Nymphuliella 4753
daeckealis
(Haimbach, 1915)

SYNCLITA
Synclita 4754
tinealis
Munroe, 1972

Synclita 4755
obliteralis
(Walker, 1859)

LANGESSA
Langessa 4758
nomophilalis
(Dyar, 1906)

PARAPOYNX
Parapoynx 4759
maculalis
(Clemens, 1860)

Parapoynx 4760
obscuralis
(Grote, 1881)

Parapoynx 4761
badiusalis
(Walker, 1859)

Parapoynx 4762
curviferalis
(Walker, [1866])

Parapoynx 4763
seminealis
(Walker, 1859)

Parapoynx 4764
allionealis
Walker, 1859

Parapoynx 4765
diminutalis
Snellen, 1880

ARGYRACTINI

NEARGYRACTIS
Neargyractis 4769
slossonalis
(Dyar, 1906)

Neargyractis 4769.1
moniligeralis
(Lederer, 1863)

ARGYRACTIS
Argyractis 4770
drumalis
(Dyar, 1906)

PETROPHILA
Petrophila 4774
bifascialis
(Robinson, 1869)

Petrophila 4778
santafealis
(Heppner, 1976)

EOPARARGYRACTIS
Eoparargyractis 4785
irroratalis
(Dyar, 1917)

Eoparargyractis 4786
floridalis
Lange, 1956

Eoparargyractis 4787
plevie
(Dyar, 1917)

DICHOGAMINAE

DICHOGAMA
Dichogama 4790
redtenbacheri
Lederer, 1863

Dichogama 4791
amabilis
Möschler, 1891

ALATUNCUSIA
Alatuncusia 4793
bergii
(Möschler, 1891)

EUSTIXIA
Eustixia 4794
pupula
Hübner, [1823]

ODONTIINAE

MICROTHEORIS
Microtheoris 4796
ophionalis
(Walker, 1859)

DICEPOLIA
Dicepolia 4796.1
rufitinctalis
(Hampson, 1899)

MIMOSCHINIA
Mimoschinia 4826
rufofascialis
(Stephens, 1834)

GLAPHYRIINAE

HELLULA
Hellula 4846
rogatalis
(Hulst, 1886)

Hellula 4847
phidilealis
(Walker, 1859)

Hellula 4848
kempae
Munroe, 1972

STEGEA
Stegea 4864
cripalis
(Grote, 1878)

GLAPHYRIA
Glaphyria 4869
glaphyralis
(Guenée, 1854)

Glaphyria 4870
sesquistrialis
Hübner, [1823]

Glaphyria 4871
basiflavalis
Barnes & McDunnough, 1913

Glaphyria 4873
fulminalis
(Lederer, 1863)

Glaphyria 4874
cappsi
Munroe, 1972

AETHIOPHYSA
Aethiophysa 4875
delicata
Munroe, 1964

Aethiophysa 4877
lentiflualis
(Zeller, 1872)

XANTHOPHYSA
Xanthophysa 4879
psychialis
(Hulst, 1886)

PLUMEGESTA
Plumegesta 4880
largalis
Munroe, 1972

LIPOCOSMA
Lipocosma 4881
sicalis
(Walker, 1859)

Lipocosma 4882
diabata
Dyar, 1917

Lipocosma 4885
septa
Munroe, 1972

LIPOCOSMODES
Lipocosmdoes 4888
fuliginosalis
(Fernald, 1888)

DICYMOLOMIA
Dicymolomia 4889
julianalis
(Walker, 1859)

Dicymolomia 4890
metalophota
(Hampson, 1897)

Dicymolomia 4893
grisea
Munroe, 1964

CHALCOELA
Chalcoela 4896
pegasalis
(Walker, 1859)

EVERGESTINAE

EVERGESTIS
Evergestis 4898
rimosalis
(Guenée, 1854)

Evergestis 4901
unimacula
(Grote & Robinson, 1867)

EVERGESTELLA
Evergestiella 4932
evincalis
(Möschler, 1890)

TRISCHISTOGNATHA
Trischistognatha 4933
pyrenealis
(Walker, 1859)

PYRAUSTINAE

NASCIA
Nascia 4937
acutella
(Walker, [1866])

EPICORSIA
Epicorsia 4938
oedipodalis
(Guenée, 1854)

PSEUDOPYRAUSTA
Pseudopyrausta 4939
santatalis
(Barnes & McDunnough, 1914)

OENOBOTYS
Oenobotys 4940
vinotinctalis
(Hampson, 1895)

TRIUNCIDIA
Triuncidia 4942
eupalusalis
(Walker, 1859)

CROCIDOPHORA
Crocidophora 4943
pustuliferalis
Lederer, 1863

Crocidophora 4945
tuberculalis
Lederer, 1863

OSTRINIA
Ostrinia 4946
penitalis
(Grote, 1876)

Ostrinia 4947
obumbratalis
(Lederer, 1863)

Ostrinia 4949
nubilalis
(Hübner, 1796)

FUMIBOTYS
Fumibotys 4950
fumalis
(Guenée, 1854)

PERISPASTA
Perispasta 4951
caeculalis
Zeller, 1875

PHLYCTAENIA
Phlyctaenia 4953
coronata (Hufnagel, 1767)
a) tertialis
(Guenée, 1854)

Phlyctaenia 4955
leuschneri
Munroe, 1976

NEALGEDONIA
Nealgedonia 4956
extricalis
(Guenée, 1854)

ANANIA
Anania 4958
funebris (Ström, 1768)
a) glomeralis
(Walker, 1859)

HAHNCAPPSIA
Hahncappsia 4962
marculenta
(Grote & Robinson, 1867)

Hahncappsia 4967
mancalis
(Lederer, 1863)

Hahncappsia 4971
ramsdenalis
(Schaus, 1920)

ACHYRA
Achyra 4974
bifidalis
(Fabricius, 1794)

Achyra 4975
rantalis
(Guenée, 1854)

NEOHELVIBOTYS
Neohelvibotys 4977
neohelvialis
(Capps, 1967)

Neohelvibotys 4979
polingi
(Capps, 1967)

HELVIBOTYS
Helvibotys 4980
helvialis
(Walker, 1859)

SITOCHROA
Sitochroa 4986
dasconalis
(Walker, 1859)

SERICOPLAGA
Sericoplaga 4991
externalis
Warren, 1892

URESIPHITA
Uresiphita 4992
reversalis
(Guenée, 1854)

LOXOSTEGE
Loxostege 4994
floridalis
Barnes & McDunnough, 1913

PYRAUSTA
Pyrausta demantrialis (Druce, 1895) 5018

Pyrausta signatalis (Walker, [1866]) 5034

Pyrausta inornatalis (Fernald, 1885) 5037

Pyrausta shirleyae Munroe, 1976 5038

Pyrausta bicoloralis (Guenée, 1854) 5040

Pyrausta onythesalis (Walker, 1859) 5042

Pyrausta insignitalis (Guenée, 1854) 5044

Pyrausta phoenicealis (Hübner, [1818]) 5049

Pyrausta panopealis (Walker, 1859) 5050

Pyrausta rubricalis (Hübner, 1796) 5051

Pyrausta pseuderosnealis Munroe, 1976 5053

Pyrausta homonymalis Munroe, 1976 5055

Pyrausta generosa (Grote & Robinson, 1867) 5056

Pyrausta orphisalis Walker, 1859 5058

Pyrausta subsequalis (Guenée, 1854) 5060

Pyrausta tyralis (Guenée, 1854) 5069

Pyrausta laticlavia (Grote & Robinson, 1867) 5070

Pyrausta acrionalis (Walker, 1859) 5071

Pyrausta niveicilialis (Grote, 1875) 5073

Pyrausta cardinalis (Guenée, 1854) 5073.1

HYALORISTA
Hyalorista taeniolalis (Guenée, 1854) 5077

PORTENTOMORPHA
Portentomorpha xanthialis (Guenée, 1854) 5078

GONOCAUSTA
Gonocausta sabinalis Dyar, 1914 5078.1

SPILOMELINAE

UDEA
Udea rubigalis (Guenée, 1854) 5079

NEOLEUCINODES
Neoleucinodes prophetica (Dyar, 1914) 5102

LINEODES
Lineodes fontella Walsingham, 1913 5106

Lineodes integra (Zeller, 1873) 5107

Lineodes interrupta (Zeller, 1873) 5108

Lineodes triangulalis (Möschler, 1890 5109

Lineodes multisignalis Herrich-Schäffer, 1868 5109.1

ATOMOPTERYX
Atomopteryx solanalis (Barnes & McDunnough, 1913) 5110

ERCTA
Ercta vittata (Fabricius, 1794) 5111

DIAPHANTANIA
Diaphantania impulsalis (Herrich-Schäffer, 1871) 5114

LOXOSTEGOPSIS
Loxostegopsis merrickalis (Barnes & McDunnough, 1918) 5117

SUFETULA
Sufetula diminutalis (Walker [1866]) 5120

Sufetula carbonalis Hayden, 2013 5120.1

MICROPHYSETICA
Microphysetica hermeasalis (Walker, 1859) 5121

EURRHYPARODES
Eurrhyparodes lygdamis Druce, 1902 5122

DEUTEROPHYSA
Deuterophysa fernaldi Munroe, 1983 5123

GESHNA
Geshna cannalis Quaintance, 1899) 5126

HYDRIRIS
Hydriris ornatalis (Duponchel, 1831) 5127

MECYNA
Mecyna submedialis (Grote, 1876) 5135

MIMORISTA
Mimorista tristigmalis (Hampson, 1898) 5141

DIACME
Diacme elealis (Walker, 1859) 5142

Diacme adipaloides (Grote & Robinson, 1867) 5143

Diacme phyllisalis (Walker, 1859) 5144

Diacme mopsalis (Walker, 1859) 5145

EPIPAGIS
Epipagis forsythae Munroe, 1955 5146

Epipagis huronalis (Guenée, 1854) 5147

NIPHOGRAPTA
Niphograpta albiguttalis (Warren, 1889) 5149

SAMEA
Samea ecclesialis Guenée, 1854 5150

Samea multiplicalis (Guenée, 1854) 5151

Samea baccatalis (Hulst, 1886) 5152

CROCIDOCNEMIS
Crocidocnemis pellucidalis (Möschler, 1890) 5153

LOXOMORPHA
Loxomorpha cambogialis (Guenée, 1854) 5154

Loxomorpha flavidissimalis (Grote, 1878) 5155

Loxomorpha triticalis Berg, 1875 5155.1

NOMOPHILA
Nomophila nearctica Munroe, 1973 5156

DUPONCHELIA
Duponchelia fovealis Zeller, 1847 5156.1

RHECTOCRASPEDA
Rhectocraspeda periusalis (Walker, 1859) 5157

MARUCA
Maruca vitrata (Fabricius, 1787) 5157.1

ATEGUMIA
Ategumia ebulealis (Guenée, 1854) 5158

DESMIA
Desmia funeralis (Hübner, 1796) 5159

Desmia maculalis Westwood, 1831 5160

Desmia subdivisalis Grote, 1871 5161

Desmia ufeus (Cramer, 1777) 5162

Desmia tages (Cramer, 1777) 5164

Desmia deploralis Hampson, 1912 5166

Desmia ploralis (Guenée, 1854) 5167

Desmia microstictalis Hampson, 1904 5168.1

HYMENIA
Hymenia perspectalis (Hübner, 1796) 5169

SPOLADEA
Spoladea recurvalis (Fabricius, 1794) 5170

DIASEMIOPSIS
Diasemiopsis leodocusalis (Walker, 1859) 5171

DIASEMIODES
Diasemiodes janassialis (Walker, 1859) 5172

Diasemiodes nigralis (Fernald, 1892) 5173

Diasemiodes eudamidasalis (Druce, 1899) 5173.1

DIATHRAUSTA
Diathrausta reconditalis (Walker, 1859) 5174

Diathrausta harlequinalis Dyar, 1913 a) lauta Munroe, 1956 5175

ANAGESHNA
Anageshna primordialis (Dyar, 1907) 5176

APOGESHNA
Apogeshna stenialis (Guenée, 1854) 5177

STENIODES
Steniodes mendica (Hedemann, 1894) 5178

PENESTOLA
Penestola bufalis (Guenée, 1854) 5179

Penestola simplicialis (Barnes & McDunnough, 1913) 5180

BLEPHAROMASTIX
Blepharomastix ranalis (Guenée, 1854) 5182

Blepharomastix achroalis (Hampson, 1913) 5185

Blepharomastix schistisemalis (Hampson, 1912) 5191

HILEITHIA
Hileithia magualis (Guenée, 1854) 5187

Hileithia aplicalis (Guenée, 1854) 5188

Hileithia differentialis (Dyar, 1914) 5190

SYSRACERA
Sysracera subulalis (Guenée, 1854) 5194

Sysracera inabsconsalis (Möschler, 1890) 5194.1

EULEPTE
Eulepte anticostalis (Grote, 1871) 5195

SYNCLERA
Synclera jarbusalis (Walker, 1859) 5196

GLYPHODES
Glyphodes pyloalis Walker, 1859 5197

Glyphodes sibillalis Walker, 1859 5198

Glyphodes floridalis (Fernald, 1901) 5199

COLOMYCHUS
Colomychus talis (Grote, 1878) 5200

DIAPHANIA
Diaphania olealis (R. Felder & Rogenhofer, 1874) 5201

Diaphania nitidalis (Stoll, 1781) 5202

Diaphania hyalinata (Linnaeus, 1767) 5204

Diaphania modialis (Dyar, 1912) 5205

Diaphania indica (Saunders, 1851) 5207

Diaphania lualis (Herrich-Schäffer, 1871) 5208

LEUCOCHROMA
Leucochroma corope (Stoll, 1781) 5210

OMIODES
Omiodes similis Guenée, 1854 5211

Omiodes indicata (Fabricius, 1775) 5212

Omiodes rufescens (Hampson, 1912) 5213

Omiodes stigmosalis (Warren, 1892) 5214

CONDYLORRHIZA
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SPIRITS OF NATURE
AN INTRODUCTION TO THE VARIATION IN THE APPARENT FACES ON THE THORAXES OF THE TEXAS GRAY, *GLENOIDES TEXANARIA* (LEPIDOPTERA: GEOMETRIDAE)

BY

JOHN PICKERING

In 2010, in order to understand what drives insect diversity and abundance across sites, seasons and years, we began photographing moths and other creatures at lights (Pickering, 2015). We now have a million photographs online at www.discoverlife.org/moth, including 3,200 moth species from the United States (23 sites), Canada (1), and Costa Rica (1). Here I present unexpected patterns on some of their thoraxes. We are calling these '*Spirits of Nature*.'

In nearly 500,000 photographs taken over 4,500 nightly samples at Blue Heron Drive, Clarke County, Georgia, we have identified 1,405 species among 360,000 individual lepidopterans. The composite figure of 5 x 5 tiles shows the patterns on 23 of the 2,900 *Glenoides texanaria* individuals. It has two tiles for each of two individuals. Thus, it shows a total of 25 patterns.

I took the photographs with Nikon D50 cameras and AF Micro Nikkor 105mm lenses, using the built-in flash, aperture set at F stop 32, and shutter speed of 1/500th second. I cropped the original 3,008 x 2,000 pixel jpegs into close-up 200 x 320 pixel tiles and put these into the figure with PerlMagick image processing programs. No tiles are digitally doctored individually. However, the collective composite is brightened for printing here.

This year I have presented *Spirits of Nature* in two juried art exhibits, a caption for which read:

"Greek mythology tells of psychopomps who guided souls to their afterlife in the underworld. Charon, the ferryman of Hades, is one of the better known. He charged a coin to row each across the Acheron river, which divided the world of the living from that of the dead. Apparent faces such as these may have inspired such myths. They are close up photographs of the backs of moths. Please enjoy their wondrous diversity, beauty, and the challenge of finding some matches among them of the same individuals. It is a scientific mystery why some moths display such patterns. Note some have parasitic mites, which are red."

In the next issue I will compare the patterns on *G. texanaria* with other geometrid species, speculating on possible reasons why the patterns exist. Meanwhile I hope that you have fun trying to match the two pairs in the figure that are patterns from two individual moths.

Reference

Pickering, J., 2015. Find your dark side: Invitation to join Discover Life's Mothing project. *Southern Lepidopterists' News* 37 (4):205-208.

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Fig. 1. 'Spirits of Nature'

[John Pickering (pick@discoverlife.org)]

REPORTS OF STATE COORDINATORS

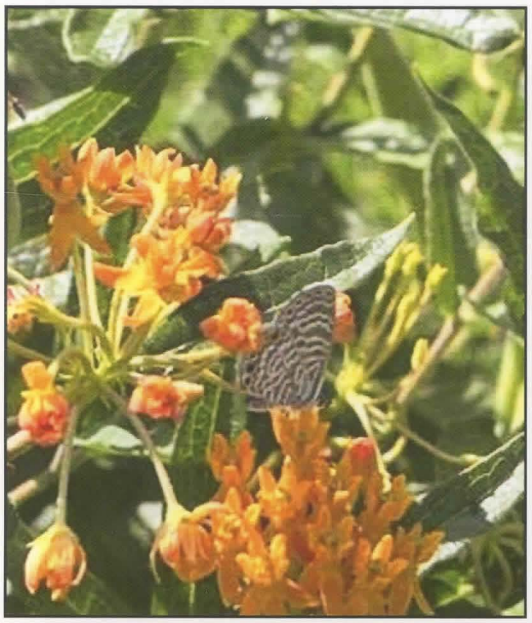
Alabama: C. Howard Grisham, 573 Ohatchee Road, Huntsville, AL 35811, E-Mail: chgrisham@Comcast.net

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

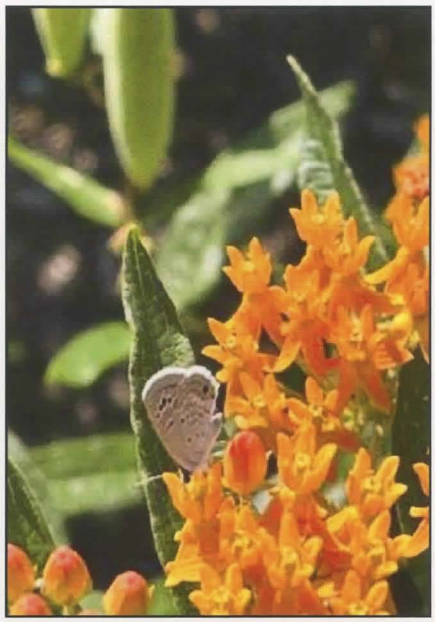
David Rupe sent in the following report to Mack:

Been a long while since I've reported anything; however, I have a few interesting species that I have seen in my yard over the past few weeks that seem worth mentioning. These were all either photographed or collected at my residence at Crane Court, Fayetteville, Washington County, Arkansas. I've attached photos of some of the species.

Leptotes marina: July 18, 2022
Echinargus isola: July 18, 2022
Carmenta bassiformis: July 5, 2022
Amblyscirtes belli: July 18, 2022



Marine Blue *Leptotes marina* (July 18, 2022)

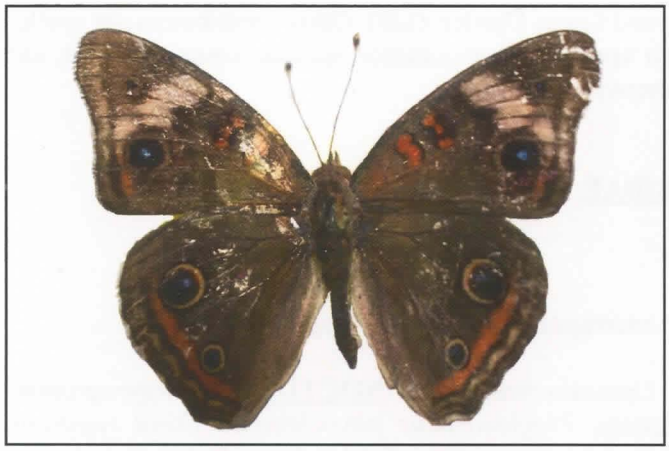


Reakirt's blue *Echinargus isola* (July 18, 2022)

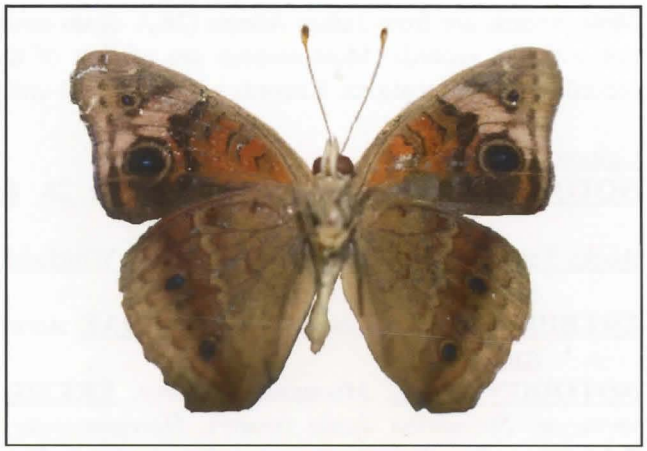
Eupatorium borer moth or ironweed clearwing moth *Carmenta bassiformis* (July 5, 2022)

I've got one more, but I'm not 100% sure about this one. Please take a look at the attached photo titled "Buckeye". I collected this July 22, 2022, nectaring on Vitex. To my eye it looks like *Junonia evarete* (Tropical Buckeye), but

I'm not completely convinced. It has several features consistent with *evarete* (or the subspecies *Junonia evarete zonalis*) although it seems to me that the common buckeye (*Junonia coenia*) is fairly variable. Mack, let me know your thoughts about it. If it indeed is that species (*evarete*), certainly want to include in this list and report. Might be a state record, not sure. David



"Buckeye" (dorsal)



"Buckeye" (ventral)

David Rupe states that he is leaning towards the Tropical Buckeye, but just not certain. If a Tropical Buckeye this would be an Arkansas state record? Perhaps the members of the SL Society could drop David a line if they have a comment and/or opinion (darupe@gmail.com).

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

Florida report, March 17 to May 16, 2022 sent in by Charlie:

This is a very report brief because I did not consider the butterfly flight to be very substantial this year. Also there were no submitted reports from others to include. I played very little golf and got around much less than in the past because of reduced mobility and other limitations. I feel that the Covid pandemic contributed to my dearth of observations. On August 12 the Covells moved to The Village, a retirement community here in Gainesville. It is time for me to step down as your Florida reporter. I ask anyone interested in taking this on please contact Barry Lombardini, our editor. Best regards, Charlie

Alachua County, vicinity of Gainesville:

Agraulis vanillae	May 22, June 14, July 24, August 29
Hylephila phyleus	May 28, June 14, 15, July 24. 29
Junonia coenia	May 28
Pontia protodice	June 2
Phoebis sennae	June 2, July 21, 30, August 29
Abaeis nicippe	June 2, July 19, 30
Erynnis horatius	June 14, 19
Danaus plexippus	June 14, 29, July 7, 19, August 4
Leptotes ceraunus	June 20
Heraclides cresphontes	July 7
Heliconius charithonia	July 9
Anartia jatrophae	July 17, 19, August 23
Panoquina ocola	July 19
Battus philenor	August 2
Papilio glaucus	August 29

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.galelps.org/

James sends in the 3rd summary for 2022:

Most records are from James Adams (JKA or no notation) and Lance Durden (LD). Other contributors are spelled out with the records. Most records are of first of the year specimens, uncommon species, county records, and records for new locations. Records are from 2022 unless otherwise specified.

Calhoun, Gordon Co.:
NOTODONTIDAE: *Misogada unicolor*, Aug. 28. **EREBIDAE**: *Leucanopsis longa*, Aug. 29.

Rocky Face Ridgeline, just south of Dalton, Whitfield Co.:
Aug. 1-2:
EREBIDAE: *Catocala angusi*. **NOCTUIDAE**: *Acronicta interrupta, A. fallax, Dipterygia rozmani.*
Aug. 27-28:
NOTODONTIDAE: *Misogada unicolor*. **EREBIDAE**: *Catocala nebulosa*, . **NOCTUIDAE**: *Argyrogramma verrucae, Spraguiea dama* (many), *Harrisimemna trisignata, Plagiomimicus pityochromus, Stiria rugifrons, Schinia nundina, Schinia thoreaui, Papaipema polymniae, Properigea* nr. *costa, Trichordestra legitima.*

Taylor's Ridge, 5 miles W of Villanow, south of Hwy 136, Walker Co.:
June 18-20, with Hugh McGuinness:
COSSIDAE: *Givera anna*. **DUDGEONIDAE**: *Cossula magnifica*. **LIMACODIDAE**: *Monoleuca semifascia*. **EREBIDAE**: *Dinumma deponens, Catocala dejecta, C. insolabilis* (EARLY), *C. miranda, C. amestris.* **NOCTUIDAE**: *Emarginea percara, Euplexia benesimilis* (common).
June 24-25:
DUDGEONIDAE: *Cossula magnifica*. **LIMACODIDAE**: Monoleuca semifascia (the most common I have ever seen it). **EREBIDAE**: *Catocala miranda, C. residua* (EARLY). **NOCTUIDAE**: *Harrisimemna trisignata.*
July 27-28:
EREBIDAE: *Spiloloma lunilinea, Catocala cerogama* (LATE), *C. judith* (LATE), *C. luctuosa, C. obscura, C. habilis*. **NOCTUIDAE**: *Acronicta funeralis, A. interrupta, A. fallax.*
Aug. 31-Sept. 1:
SPHINGIDAE: *Sphinx kalmiae*. **EREBIDAE**: *Catocala luctuosa* (MANY), *Catocala nebulosa*. **NOCTUIDAE**: *Harrisimemna trisignata, Basilodes pepita.*
Sept. 8-9:
EREBIDAE: *Cisthene kentuckiensis, Catocala habilis* (LATE). **NOCTUIDAE**: *Cirrhophanus triangulifer, Heliocheilus lupatus, Papaipema polymniae.*

Salacoa road at Salacoa Creek, 5 mi. SE of Fairmount, Bartow Co., Aug. 26-27:
NOCTUIDAE: *Acronicta insularis.*

Brasstown Bald area, Towns/Union Cos., June 5-7, Lance Durden:
Trackrock Campground, 141 Trackrock Camp Rd., Blairsville, Union Co., LD:
TORTRICIDAE: *Clepsis melaleucanus.* **NOCTUIDAE**: *Acronicta immodica, Acronicta spinigera.*
Hwy 180; 0.6 mi. S. of junction w. 180 spur: **TORTRICIDAE:** *Argyrotaenia juglandis.*
Bottom of 180 spur (junction w. 180): **TORTRICIDAE:** *Argyrotaenia alisellana.*
Powerline cut hwy 180 spur, 3200':
TORTRICIDAE: *Argyrotaenia alisellana, Clepsis melaleucanus, Olethreutes hamameliana.* **GEOMETRIDAE**: *Macaria minorata, Trigrammia quadrinotaria, Euchlaena muzaria.* **EREBIDAE:** *Hyperstrotia secta.* **NOCTUIDAE**: *Acronicta immodica, Acronicta lobeliae, Balsa tristrigella.*
Hairpin turn near top, 4100':
HEPIALIDAE: *Gazoryctra sciophanes.* **NOCTUIDAE**: *Acronicta immodica.*

Statesboro, Bulloch Co., Lance Durden, early June:
In the bait trap in our back yard, there are currently dozens of *Darapsa myron* each night but also a few *Sphecodina abbottii* which I don't see too often here.

Horsecreek WMA, Telfair Co., 11 mi. SW of Lumber City, Sept. 3-4, JA and Jeff Slotten:

This was our first time back here in a long time. The far eastern road has been partially reopened and the habitat looks good. The diversity was decent, however, we did not catch much of anything of note. There were a few good things, which are listed here.

LIMACODIDAE: *Adoneta* nr. *spinuloides* (extremely small). **EREBIDAE**: *Catocala ulalume* (uncommon this far south), *Zale horrida* (with very dark margins). **NOCTUIDAE**: *Argillophora furcilla* (COUNTY; although found in the Florida panhandle, this is pretty far south for this species in south central Georgia).

Townsend WMA North, Long Co., Sept. 2-3, JA and Jeff Slotten:

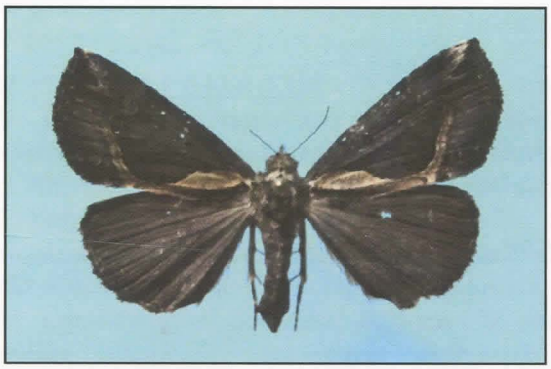
Sandhill areas:

PSYCHIDAE: *Thyridopterix ephemaeriformis*, *Oeketicus abbotti*. **MEGALOPYGIDAE**: *Meglopyge opercularis*. **LIMACODIDAE**: *Lithacodes gracea, Prolimacodes badia, Isochaetes beutenmulleri, Monoleuca semifascia*. **CRAMBIDAE**: *Parapoynx obscuralis, Anageshna primordialis, Ategumia ebulealis, Vaxi auratella, Condylorrhiza vestigialis, Macalla zelleri, Desmia maculalis, D. funeralis, Uresephita reversalis, Ategumia ebulealis, Pyrausta tyralis*. **PYRALIDAE**: *Hypsopygia olinalis, Lepidomys irrenosa, Dioryctria clarioralis*. **GEOMETRIDAE**: *Idaea violacearia, I. tacturata, I. demissaria, Lobocleta peralbata, Lophosis labeculata, Pleuroprucha insulsaria, Cyclophora packardi, Nemoria lixaria, N. bifilata, , Synchlora frondaria, Eumacaria madopata, Macaria transitaria, M. bisignata, M. bicolorata, M. minorata, Anavitrinella pampinaria, Hypomecis umbrosaria, Iridopsis defectaria, Epimecis hortaria, Hypagyrtis unipunctata, Euchlaena madusaria, E. amoenaria, E. obtusaria, E. pectinaria, Prochoerodes lineola, Eutrapela clemataria*. **MIMALLONIDAE**: *Lacosoma chirodota*. **APATELODIDAE**: *Apatelodes torrefacta, Olceclostera indistincta*. **LASIOCAMPIDAE**: *Tolype notialis, Artace cribraria*. **SATURNIIDAE**: *Dryocampa rubicunda, Eacles imperialis, Automeris io, Antheraea polyphemus, Actias luna*. **SPHINGIDAE**: *Ceratomia catalpae* (COUNTY), *Lapara coniferarum, Enyo lugubris, Paonias excaecata, Darapsa myron, Xylophanes tersa*. **NOTODONTIDAE**: *Clostera inclusa, Datana drexelli, Nadata gibbosa, Macrurocampa marthesia, Peridea angulosa, Heterocampa astarte, H. guttivitta, H. biundata, H. obliqua, Lochmaeus manteo, Ianassa lignicolor, Schizura ipomoeae, S. unicornis, Symmerista* sp. **EREBIDAE**: *Dasychira meridionalis, Cisthene subjecta, Hypoprepia fucosa, Virbia rubicundaria, V. fergusoni, Halysidota tesselaris, Syntomeida ipomoeae* (COUNTY; see image), *Idia americalis,*

EREBIDAE: *Syntomeida ipomoeae*

I. rotundalis, I. diminuendis, Renia fraternalis, R. nemoralis, R. salusalis, Bleptina caradrinalis, B. inferior, Phalaenostola larentioides, Palthis angulalis, Hypena scabra, Phyprosopus callitrichoides, Lascoria ambigualis, Hemeroplanis scopulepes, Pangrapta decoralis, Ptichodis herbarum, P. vinculum, Epidromia rotundata, Argyrostrotis flavistriaria, A. erasa, A. sylvarum, A. anilis, Anticarsia gemmatalis, Caenurgia chloropha, Gondysia similis, Lesmone hinna, L. detrahens, Allotria elonympha, Zale metata, Zale declarans, Panopoda rufimargo, P. repanda, Mocis marcida, M. latipes. **EUTELIIDAE**: *Marathyssa inficita, Paectes abrostoloides*. **NOLIDAE**: *Meganola minuscula, Nola phylla, N. clethrae*. **NOCTUIDAE**: *Chrysodeixis includens, Autographa precationis, Argyrogramma verrucae, Marimatha nigrofimbria, Bagisara rectifascia* (COUNTY), *Charadra deridens, Acronicta hastulifera* (COUNTY), *A. brumosa, Polygrammate hebraeicum, Harrismemna trisignata, Condica mobilis, C. videns, C. confederata, Derimma stellata, Helicoverpa zea, Chloridea virescens, Schinia lynx, S. fulleri, S. trifascia, Iodopepla u-album, Elaphria chalcedonia, E. grata, Spodoptera frugiperda, Spodoptera ornithogalli, Phosphila miseloides, Chytonix palliatricula, Mythimna unipuncta, Leucania incognita, L. extincta, Agrotis ipisilon, Anicla infecta.*

Cane, Cypress/Birch woods (and not sandhill sites):
LIMACODIDAE: *Euclea delphinii, Apoda y-inversum.* **CRAMBIDAE**: *Palpita magniferalis.* **GEOMETRIDAE**: *Mellila xanthometata, Macaria aequiferaria, Protoboarmia porcelaria, Iridopsis pergracilis, Melanolophia signataria, Hypagyrtis esther, Ilexia intractata, Euchlaena amoenaria.* **NOTODONTIDAE**: *Peridea angulosa, Nerice bidentata*.* **SATURNIIDAE**: *Anisota stigma.* **EREBIDAE**: *Hypena ramstadtii* (STATE; see image), *Dasychira dominickaria* (COUNTY; see image), *Clemensia ochreata, Idia aemula, I. lubricalis, Nigeta formosalis, Cutina distincta, C. arcuata, C. aluticolor, Scolecocampa liburna.* **NOCTUIDAE**: *Oruza albocostaliata, Panthea furcilla, Acronicta betulae, Acronicta vinnula, Acronicta longa, Parapamea buffaloensis.*

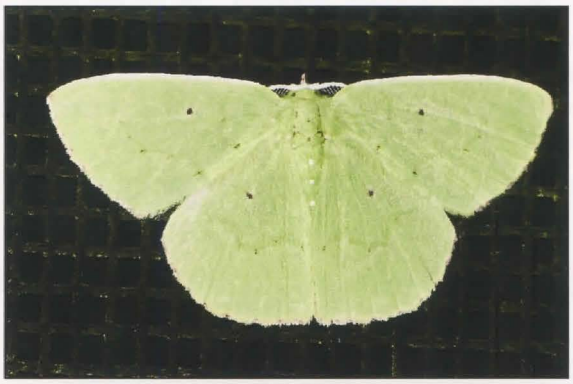


EREBIDAE: ***Hypena ramstadtii***

EREBIDAE: ***Dasychira dominickaria***

Brunswick, Glynn Co., Mike Chapman:
CRAMBIDAE: *Diaphania infimalis*, Aug. 26 (COUNTY, second in state; see image). **GEOMETRIDAE**: *Phrudocentra centrifugaria*, Aug. 27 (COUNTY, second in state; see image).

CRAMBIDAE: ***Diaphania infinalis***



GEOMETRIDAE: *Phrudocentra centrifugaria*

Penholoway WMA, Wayne Co., July 7, Lance Durden and Dirk Stevenson:
(2 light sheets near bluff above Altamaha floodplain, dusk until midnight)
CRAMBIDAE: *Diasemiopsis leodocusalis, Diastictis ventralis, Eudonia strigalis,Herpetogramma phaeopteralis, Palpita freemanalis, Prionapteryx serpentella, Samea multiplicalis, ubida panalope.* **GEOMETRIDAE:** *Nemoria elfa, Nemoria saturiba.* **EREBIDAE**: *Cutina albopunctella, Cutina aluticolor, Cutina arcuata, Hyperstrotia aetheria, Hyperstrotia secta.* **NOCTUIDAE**: *Acronicta betulae, Azenia obtusa, Callopistria cordata, Papaipema stenocelis* (COUNTY, EARLY; see image).

NOCTIDAE: ***Papaipema stenocelis***

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 sent in the following report on August 22 (Records by Ricky unless otherwise specified):

10 June 2022, Vicksburg, Warren county, MS: several *Dasychira matheri* males
12 July 2022, ENE of Troy community, Pontotoc county, MS: *Lethe anthedon anthedon, Cercyonis pegala alope, Catocala sappho, Catocala epione, Catocala insolabilis, Catocala ulalume*
12 July 2022, near Palmetto community, Lee county, MS: *Zale horrida*
16 July 2022, Vicksburg, Warren county, MS: Catocala sappho, *Catocala nebulosa*
17 August 2022, Crosby Arboretum, Picayune, Pearl River county, MS: *Erynnis zarucco, Polites otho otho*

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

Harry sends in the following report: SUMMER BUTTERFLY RECORDS FOR NORTH CAROLINA – 2022

Records are from June through August 2022, except as indicated. Names in parentheses are counties; when in bold, a first county record.

This was one of the hottest summers on record for the state, the third hottest ever in the Raleigh-Durham area. Rainfall was normal to below normal, and with strong sunlight and hot temperatures, many places were a bit on the droughty side, even with adequate rainfall. Of course, sunny and often dry conditions meant that butterfliers had most every day available for field trips, if desired.

Sadly, overall butterfly numbers continue to be the worst in nearly everyone's memory. Climate change – especially the overly warm late winters and early springs, followed by strong cold spells with heavy frost, ice, or snow – is the main culprit. Eggs and pupae come out of dormancy and start to develop earlier than usual and then are presumably killed by the cold weather; this is particularly a problem in the Piedmont and Coastal Plain. In fact, few folks bother now to look for butterflies in the normally productive savannas and coastal wetlands – a sad situation. And, to make things worse, southern migrants were in short supply; are strong freezes in Florida, Georgia, and South Carolina also affecting these migrants? At any rate, records of Vanessa cardui, Pyrisitia lisa, Urbanus proteus, and a few others were in short supply, and no one reported any adult Calpodes ethlius.

PAPILIONIDAE:

Heraclides cresphontes, Carol Ann McCormick saw two individuals at a previously known site -- at the western edge of the Brushy Mountains – in Caldwell County on July 28. The puzzling array of recent records for Chatham County, in the eastern Piedmont, continued this summer, as Parker and Holly Backstrom had singletons (same one?) in their yard on August 15 and August 29. There must be a local breeding colony somewhere nearby, though the species is essentially a coastal and (rare) montane breeder in the state.

Pterourus palamedes, completely out of range was a stray photographed in Chapel Hill (**Orange**) on June 30, on an iNaturalist submission. There are very few reports from the Piedmont, where it is clearly not a resident.

PIERIDAE:

Pyrisitia lisa, this was a poor summer for this partial migrant, with the first report away from the Coastal Plain being one seen by Will Stuart in the South Mountains Game Land (Rutherford) on July 1. One seen by Marie Poteat on August 8 at Jamestown (Guilford) was the farthest north individual seen in the state this season.

Pontia protodice, there were only two reports for the season, singles photographed on iNaturalist, from Gaston and Wake counties, both in July. The Gaston photo provides the first record for this county since 2000.

LYCAENIDAE:

Feniseca tarquinius, rare in the Coastal Plain, one was thus notable as seen by Mike Turner at the Cape Fear Botanical Garden in Fayetteville (Cumberland), on August 6. He also saw another in nearby Buies Creek (Harnett), at the edge of the Coastal Plain, on August 20. Brian Bockhahn and party noted that the local colony on the Mayo River State Park (Rockingham) count was in full swing, with a good tally of four on August 18.

Atlides halesus, Marie Poteat, who has a great array of habitats and butterfly species in her Jamestown (Guilford) yard, was able to find single individuals of this primarily Coastal Plain species on August 5, 21, and 23.

Callophrys gryneus, a good count for the coastal subspecies was 12 made by John Taggart at Fort Fisher State Recreation Area (New Hanover) on June 26.

Erora laeta, any record of this elusive species is significant; reports based on iNaturalist photos were by S.H. McBean in Avery County on April 16, and by an unknown person in Madison County on June 23.

Satyrium edwardsii, the only report for the season was an excellent 37 counted by Brian Bockhahn and party at a known site in Moore County, on June 8.

RIODINIDAE:

Calephelis virginiensis, completely shocking were several photo reports this summer on iNaturalist from the central Piedmont, a province where never previously reported in the state! An unnamed person found one at an overgrown field in eastern **Davidson** on July 1, and had FOUR at two sites on July 3. This species sticks closely to its sole known hostplant in the state – *Trilisa odoratissima* – in our pine savannas and pine flatwoods close to the coast. Obviously, these several adults eclosed from some hostplant, whatever it might have been, very close to this area, as metalmarks are very poor fliers and have no history of straying in the state.

NYMPHALIDAE:

Danaus gilippus, as usual, only John Taggart noted the species, one on July 27 and two on August 15, at the most favored site at Fort Fisher (New Hanover).

Heliconius charithonia, an obvious stray, and the only report for the season, was one seen by Ellen Brown in her Chapel Hill (Orange) yard on June 8. Surprisingly, there are five previous county records, but some or most could relate to escapes from a butterfly house in a neighboring county. Perhaps eclosure from a planted hostplant – such as a *Passiflora* species – is a more plausible explanation for an adult being this far inland during a non-invasion summer.

Asterocampa clyton, this species continued unusually scarce into the summer, though numbers picked up somewhat during the second brood, starting in August.

Vanessa cardui, there were only four summer records, two from the mountains, one from the foothills, and one from the coast. The only report not of a singleton was of two seen by Lori Arent on August 31 near Maple Springs (Wilkes).

Hermeuptychia intricata, Harry LeGrand observed, and confirmed by Tom Austin of Lori Arent's photos, at least one each at hardwood swamps bisected by dirt roads in the Sandhills Game Land in **Richmond** and Moore counties, on August 17. A few H. sosybius also seemed to be present, based on photos, at the Moore site, if not the Richmond one. However, this cryptic species is expected at both sites, which are rather diverse and rich wetland forests. Details of population sizes, flight timing, and microhabitats are not yet known for NC sites for this species.

HESPERIIDAE:

Staphylus hayhurstii, at a known site near the Yadkin River (Forsyth), Richard Stickney had a very good count of five, on July 12. Always an excellent find in the mountains, Pete Dixon found one in Madison County on August 19.

Erynnis martialis, as with the spring season, again Will Stuart was the only person to find this declining species, and again at the South Mountains Game Land (Rutherford), where he photographed one on July 1. The second (summer) brood seems much rarer in the state than does the first brood – which is hard to find even then!

Erynnis zarucco, though this species is reported at scattered statewide sites, Brian Bockhahn observed singles at two Piedmont state park butterfly counts near the Virginia border – Hanging Rock (**Stokes**) on August 23 and Pilot Mountain (**Surry**) on August 24. Most populations in the state are in the Sandhills region of the Coastal Plain.

Euphyes dion, a count of four fresh individuals was excellent for so early in the second brood, as noted by Harry LeGrand and Lori Arent at Raleigh (Wake) on August 3. It is expected that the hot and sunny summer pushed the brood forward, as normally the second brood emerges around mid-August.

Problema byssus, a good find for the first brood was one noted by Mike Turner along Turnbull Creek (Bladen) on June 12.

Hesperia attalus, rather early for the second brood was a fresh female photographed by Will Stuart on August 6 in the Sandhills Game Land (Richmond).

Poanes viator, Nick Flanders saw four at a marsh in Pasquotank County on June 5. Though locally common in tidal freshwater marshes, we get few reports from along Albemarle Sound. Another was at the inner edge of the range in southeastern Chatham County along the Cape Fear River, where seen by Harry LeGrand and Lori Arent on August 8.

Lon hobomok, a record late date (by 10 days) was one carefully studied by Gail Lankford in Madison County on August 9.

Lerodea eufala, one seen on the Hanging Rock State Park (Stokes) butterfly count on August 23, by Brian Bockhahn and party, was rare for a northern county.

Panoquina panoquin, one of the few Coastal Plain wetland species not hit hard by the year's climate seems to be this species, as John Taggart estimated 200 at Fort Fisher (New Hanover) on August 15; there were very few other butterflies in the area! Of course, hurricanes do knock populations back, but the state has dodged these storms for several years.

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

Brian sends in the following state report (South Carolina significant Lepidoptera records, Aug 2022):

Many of these records were gleaned from iNaturalist postings by Matthew Campbell. Many are county records, but I don't have the information to documents immediately at hand.

Hesperiidae:

Amblyscirtes aesculapius, Darlington Co., 31 Aug 2021, Adrian Cotter
Amblyscirtes hegon, Laurens Co., 24 Apr 2022, Dave & Marty Kastner
Amblyscirtes hegon, Laurens Co., 24 Apr 2022, Hilda Flamholtz
Amblyscirtes reversa, Berkeley Co., 19 Mar 2012, B. Penney
Amblyscirtes reversa, Chesterfield Co., 1 Jun 2019, Tom Austin
Ancyloxypha numitor, Allendale Co., 3 Apr 2019, Debo Boddiford
Copaeodes minima, Oconee Co., 1 Jun 2022, Matthew Campbell
Copaeodes minima, York Co., 18 Sep 2020, miraandzoe on iNaturalist
Epargyreus clarus, Saluda Co., 18 Aug 2018, Amelia Sides
Erynnis baptisiae, Edgefield Co., May 2022, Corrie Hemm, not confirmed
Erynnis brizo, Abbeville Co., 31 Mar 2006, Kim Fleming
Euphyes dion, Kershaw Co., 4 Jun 2021, Sharon Watson
Euphyes vestris, Saluda Co., 11 May 2021, Rusty Wilson
Hesperia attalus, Chesterfield Co., 20 Jun 2020, Robert Gilson
Hesperia attalus, Chesterfield Co., 16 May 2021, Will Stuart
Hesperia meskei, Chesterfield Co., Jun 2020, Robert Gilson
Hesperia meskei, Chesterfield Co., Jun 2020, Will Stuart

Lerema accius, Florence Co., 21 Sep 2017, Bufface on iNaturalist
Lerodea eufala, York Co., 28 Jun 2020, Sharon Watson
Panoquina ocola, Bamberg Co., 19 Sep 2020, Sharleen J on iNaturalist
Panoquina ocola, Hampton Co., 20 May 2019, the wrong ways on iNaturalist
Panoquina ocola, Hampton Co., 20 May 2022, the wrong ways on iNaturalist
Panoquina ocola, York Co., 16 Oct 2021, Rick Rauppis
Pholisora catullus, Chesterfield Co., 24 Apr 2020, Ken Carman
Pholisora catullus, Greenville Co., 25 Jul 2021, Noelle and Don Congdon
Pholisora catullus, Richland Co., 17 Aug 2019, John Grego
Poanes aaroni, Orangeburg Co., 21 May 2022, Hilda Flamholtz
Poanes yehl, Chesterfield Co., 4 Jun 2019, Will Stuart
Poanes zabulon, Georgetown Co., 29 Aug 2018, Mark & Holly Salvato
Poanes zabulon, Horry Co., 18 May 2021, Christopher R. Wilson
Polites vibex, Laurens Co., 30 May 2022, Chris Sermons
Staphylus hayhursti, Richland Co., 28 Jul 2017, James E. Wilson
Thorybes bathyllus, York Co., 18 Jul 2021, Jared Gorrell
Thorybes confusis, Edgefield Co., 2 Aug 2020, zabrahm on iNaturalist
Thorybes pylades, York Co., 31 Jul 2016, Steven B. Biggers

Lycaenidae:

Callophrys grynea, Edgefield Co., 16 May 2013, Rick Owen
Callophrys henrici, Florence Co., 26 Mar 2022, Dave & Marty Kastner, Allison Smith, Tom Austin
Callophrys henrici, Hampton Co., 12 Mar 2021, Sharon Watson
Callophrys hesseli, Chesterfield Co., Apr 2015, B. Peney
Callophrys hesseli, Marlboro Co., Mar 2020, Robert Gilson
Callophrys niphon, Chesterfield Co., 17 Feb 2020, Will Stuart
Celastrina ladon, Anderson Co., 18 Mar 2021, Sydney Davis, not confirmed
Celastrina ladon, Beaufort Co., 3 Mar 2022, Jake Zadik, not confirmed
Celastrina ladon, Chesterfield Co., 3 Apr 2015, B. Peney
Celastrina ladon, Greenville Co., 29 Mar 2010, Rich Stevenson
Celastrina ladon, Greenwood Co., 31 Jan 2017, Adrian Stewart, not confirmed
Celastrina ladon, Kershaw Co., 2 Apr 2021, Sharon Watson, not confirmed
Celastrina ladon, McCormick Co., 14 Mar 2021, Debbie Myers, not confirmed
Celastrina ladon, Newberry Co., 14 Mar 2022, Clara Dandridge
Celastrina ladon, Oconee Co., 10 Mar 2021, Peter Wilson, not confirmed
Celastrina ladon, Richland Co., 5 Mar 2021, John Grego, not confirmed
Celastrina neglecta, Kershaw Co., 3 Jun 2021, Andrew Lazenby
Celastrina neglecta, Lee Co., 16 May 2019, Sharon Watson
Feniseca tarquinius, Abbeville Co., 5 Apr 2004, Kim Fleming
Hemiargus ceraunus, Hampton Co., 20 Sep & 17 Oct 2020, thewrongways on iNaturalist
Leptotes cassius, Jasper Co., 4 Jun 2021, kcthetc1 on iNaturalist
Leptotes cassius, Jasper Co., 13 Sep 2020, eripma on iNaturalist
Satyrium calanus, Abbeville Co., 4 Jun 2021, Ken Carman
Satyrium calanus, Abbeville Co., 15 Apr 2011 & 5 Apr 2012, Kim Fleming, larva
Satyrium calanus, Sumter Co., 22 May 2021, Hilda Flamholtz
Satyrium calanus, Williamsburg Co., 14 May 2022, Sharleen J on iNaturalist
Satyrium calanus, York Co., 2 Jun 2020, Elizabeth DeLanghe
Satyrium favonius, Newberry Co., 28 Apr 2020, Sharon Watson
Satyrium kingi, Kershaw Co., Jun 2018, Will Stuart
Satyrium kingi, Williamsburg Co., May 2019, picbor on iNaturalist
Satyrium liparops, York Co., 18 Jun 2017, John Zemaitis

Nymphalidae:

Anaea andria, Barnwell Co., 14 Apr 2022, Mike Turner
Anaea andria, Edgefield Co., 13 Apr 2022, J.P. Moss
Anthanassa texana, Allendale Co., 18 Oct 2019, Debo Boddiford
Danaus gilippus, Lexington Co., 5 Sep 2020, Tracy Martin

Dione incarnata, Darlington Co., 23 Aug 2019, rconway on iNaturalist, larva
Dione incarnata, Darlington Co., 27 Sep 2020, shannyturnip on iNaturalist
Hermeuptychia intricata, Horry Co., 13 Apr 2022, rcagle on iNaturalist
Lethe anthedon, Newberry Co., 2 Sep 2021, C. L. Watts
Lethe portlandia, Union Co., Oct 2021, Adam Smith
Nymphalis antiopa, Cherokee Co., 21 May 2016, Raul Urgelles
Vanessa atalanta, Lancaster Co., 1 Oct 2018, Svetlana Varchenko
Vanessa cardui, Anderson Co., 21 Sep 2019, Juliesdagger on iNaturalist

Papilionidae:

Papilio polyxenes, Darlington Co., 17 Jun 2021, Teresa Lott, larva
Pterourus appalachiensis, Oconee Co., 30 Apr 2022, Steve Collins

Pieridae:

Abaeis nicippe, Saluda Co., 27 Sep 2020, Rusty Wilson
Colias philodice, Chesterfield Co., 18 Jan & 24 Feb 2021, Ken Carman
Eurema daira, Allendale Co., 22 Oct 2020, Michael Frometa
Eurema daira, Dorchester Co., 12 Dec 2020, Kim McManus
Pieris virginiensis, Greenville Co., 4 Apr 2021, latraviata on iNaturalist
Pieris virginiensis, Oconee Co., Apr 2021, Evan Grimes
Pieris virginiensis, Pickens Co., 1 Apr 2022, Sharon Watson
Pieris rapae, Union Co., 27 May 2021, lobsterlady on iNaturalist, larva
Pontia protodice, Lexington Co., 13 Nov 2020, Sharon Watson

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

John sent in the following notes:

Erebidae: ***Catocala innubens* form *scintillans***

Erebidae:

Dinumma deponens. Tennessee: Sullivan Co., Kingsport, June 19, 2022, leg. J. Hyatt, at bait. County record.

Catocala innubens form *scintillans*, taken at bait in Kingsport, Sullivan Co., TN, June 28, 2022, leg. J. Hyatt. The bug is uncommon in the mountains of eastern Tennessee.

Texas: Terry Doyle, 13310 Bar C Drive, San Antonio, TX 782253, E-Mail: tdoyle335@yahoo.com
Stuart Marcus, P.O. Box 463 Liberty, TX 77575, E-Mail: stuartmarcus13@gmail.com

Terry sends in the following report for the 3rd quarter of 2022, and comments:

Climatic conditions for the state continue in the grip of a severe drought with the exception of the Lower Rio Grande Valley and eastern counties. July had a week of 100-105 degrees. 91/2" of rain fell in during Aug. 15 26 in San Patricio County. San Antonio is 12" behind its' average yearly precipitation. Remarkably, the eastern half of the state is experiencing an improvement in numbers of lepidopteran species and individuals. Northern Mexico has also had more rain in recent months that would account for the notable strays listed below. Lyside Sulphur and American Snout species have invaded northward that started in January peaking in July-Sep. Downpours in northeast Mexico are the trigger for the irruptions. Most observations are from the Lower Rio Grande Valley and Central Texas hill country counties.

The following notable observations are from iNaturalist by county with dates, locations and contributors, (if known).

Bexar County
Titan Sphinx, 30 Jul, 2022, 8:30 am DST, Sweet Pea, floyser

Cameron County
Violet Clouded Skipper, 14 Aug, 2022, Las Paloma , Tx., Isidro 732

Hidalgo County
Hammock Skipper, 5 Sep, 2022, Mission, Tx.
Ornythion Swallowtail, 2 Sep, 2022, Mission, Tx.
Gold-spotted Aguna, 22 , 2022, Mission, Tx.
Clavipes Sphinx, 23 Aug, 2022, Hidalgo, Co. Glazed Pellicia, 21 Aug, 2022, Butterfly Park Dr.

Jeff Davis County
Poling's Hairstreak, 27 Aug, 2022, Madera Cnyn., Rich Kostecke

Kleberg County
Dingy Purplewing, 6 Aug, 2022, Kingsville, Tx., Facebook, Tom Langschied

Tarrant County Western Giant Swallowtail, 5 Sep, 202, lmundt
Eastern Giant Swallowtail, 6 Sep, 2022, Peninsula Dr., Grapevine, Tx. Janlapine
Dion Skipper, 21 Aug, 2022, Ft. Worth, Tx., scopic

Additional comments by Terry:
June, 2022 NABA Butterfly Count
Nine locations, central and south San Antonio, TX
48 total species, 522 adult individuals, 23 observers
Compiled by Patty L Pasztor

>>

Stuart sends in the following report:

Moths for Trinity River National Wildlife Refuge
Liberty County, TX
May 1, 2022 through July 31, 2022
Stuart J. Marcus

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. If you would like any photographs or phenology data dating back to 2012, please let me know at stuart.marcus13@gmail.com.

AUTOSTICHIDAE
Gerdana caritella July
Glyphidocera juniperella June
Spinitibia hodgesi May

BLASTOBASIDAE
Hypatopa punctiferella May, July
Pigritia sp. June, July

BOMBYCIDAE
Apatelodes torrefacta June

CHOREUTIDAE
Prochoreutis inflatella June

COLEOPHORIDAE
Coleophora querciella June
Coleophora sp. May, June, July

COSMOPTERIGIDAE
Euclemensia bassettella May, July
Triclonella bicoloripennis May, June, July

COSSIDAE
Cossula magnifica May, June
Fania nanus July
Givira anna May, June, July

CRAMBIDAE
Achyra rantalis May, June, July
Aethiophysa invisalis May
Anageshna primordialis July
Argyria lacteella May, June, July
Chrysendeton medicinalis May
Condylorrhiza vestigialis June
Crambus agitatellus July
Crambus satrapellus June, July
Crocidophora tuberculalis July
Desmia funeralis complex May
Desmia sp. July
Diasemiodes janassialis May
Diastictis fracturalis May, June, July
Diatraea evanescens May, July
Diatraea lisetta May, June, July
Dicymolomia julianalis June, July
Donacaula sp. May, July
Elophila gyralis May, June, July
Elophila obliteralis May, June
Elophila tinealis May, June, July
Eoreuma densellus May
Epipagis fenestralis May, June, July
Euchromius ocellea May, June, July
Eudonia strigalis May, July
Eustixia pupula May
Fissicrambus sp. June, July
Glaphyria sesquistrialis June, July
Hellula rogatalis May
Herpetogramma phaeopteralis June, July
Hymenia perspectalis July
Lineodes integra July
Marasmia cochrusalis July
Microcrambus biguttellus May, June, July
Microcrambus elegans May, July
Microcrambus kimballi May
Niphograpta albiguttalis May, June, July
Nomophila nearctica May
Oenobotys vinotinctalis June
Oenobotys sp. July
Ostrinia penitalis July
Palpita freemanalis May, June, July
Palpita magniferalis May, July
Palpita quadristigmalis June, July
Parapediasia decorellus July
Parapediasia teterrellus May, June, July
Parapoynx allionealis May, June
Pyrausta acrionalis May, June
Pyrausta laticlavia July
Pyrausta tyralis May, June
Rupela tinctella May, June
Samea baccatalis May
Samea ecclesialis July
Samea multiplicalis May, June, July
Spoladea recurvalis July
Uresiphita reversalis June
Urola nivalis May, June, July

DEPRESSARIIDAE
Antaeotricha leucillana June, July
Antaeotricha schlaegeri July

EREBIDAE
Ablemma brimleyana May, July
Allotria elonympha June
Amolita fessa July
Anticarsia gemmatalis May
Apantesis phalerata May, June
Apantesis vittata May
Apantesis sp. July
Bleptina caradrinalis June
Caenurgia chloropha May, June, July
Catocala agrippina June, July
Catocala amica May
Catocala illecta May
Catocala grynea June
Catocala lineella June
Catocala minuta May
Cisseps fulvicollis May, June, July
Cisthene plumbea June, July
Cisthene unifascia May
Crambidia pallida May, June, July
Cutina albopunctella May, June, July
Cutina arcuata May
Cutina distincta July
Dasychira atrivenosa May
Dasychira meridionalis May, July
Dasychira tephra May
Estigmene acrea May
Eublemma minima May
Euerythra phasma May
Gabara distema May, June
Halysidota sp. May, July
Haploa clymene July
Hemeroplanis scopulepes July
Hypercompe scribonia May, June
Hyperstrotia nana June
Hypoprepia fucosa May
Hypsoropha hormos May, June, July
Idia americalis July
Isogona tenuis May, June, July
Lesmone detrahens May, June, July
Melanomma auricinctaria May
Metalectra sp. May
Metria amella May
Mocis marcida June
Nigetia formosalis July
Ommatochila mundula July
Orgyia detrita May
Orgyia leucostigma May
Pagara simplex May, June
Palthis asopialis May, July
Panopoda carneicosta May, June, July
Panopoda rufimargo May, June, July
Phyprosopus callitrichoides June

Plusiodonta compressipalpis May
Ptichodis vinculum May
Pyrrharctia isabella May, July
Redectis vitrea May
Renia adspergillus May
Schrankia macula July
Scolecocampa liburna May, July
Spiloloma lunilinea May, July
Spilosoma congrua May, July
Tetanolita mynesalis July
Virbia laeta May, July
Zanclognatha theralis complex June

EUTELIIDAE
Paectes abrostoloides June, July
Paectes oculatrix July

GELECHIIDAE
Anacampsis fullonella July
Aristotelia corallina complex May, July
Aristotelia sp. July
Battaristis undescribed - Battaristis n. sp. - 420470.96 July
Coleotechnites australis July
Deltophora sella July
Helcystogramma chambersella July
Monochroa sp. May, July
Neodactylota liguritrix May, June, July
Polyhymno luteostrigella June, July
Untomia albistrigella July

GEOMETRIDAE
Anavitrinella pampinaria June
Chlorochlamys chloroleucaria May
Costaconvexa centrostrigaria June
Digrammia gnophosaria May, June, July
Eulithis diversilineata Complex May, June, July
Eusarca confusaria June, July
Eutrapela clemataria July
Glenoides texanaria May, June, July
Haematopis grataria May
Hypagyrtis esther May June
Hypagyrtis unipunctata June
Idaea celtima June
Idaea tacturata May, June, July
Ilexia intractata May
Iridopsis defectaria May, July
Isturgia dislocaria May
Leptostales laevitaria May
Leptostales pannaria June, July
Lobocleta ossularia May, June, July
Lophosis labeculata June
Lychnosea intermicata May, June, July
Macaria sp. July
Melanolophia canadaria June
Metarranthis homuraria June
Nematocampa resistaria May, June
Nemoria lixaria May, June, July
Nepytia semiclusaria May
Patalene olyzonaria June
Phaeoura quernaria May
Pleuroprucha insulsaria May, June
Prochoerodes lineola May, June, July
Psamatodes abydata May, July
Psamatodes trientata
Scopula aemulata May
Scopula compensata May, June, July
Scopula lautaria June, July
Synchlora frondaria May, June, July
Timandra amaturaria June
Tornos scolopacinaria June, July
Xanthotype sp. May

GLYPHIPTERIGIDAE
Diploschizia impigritella May

GRACILLARIIDAE
Caloptilia blandella June
Caloptilia triadicae July
Epicephala sp. May
Neurostrota gunniella May, June, July

LACTURIDAE
Lactura pupula May
Lactura subfervens May, June, July

LASIOCAMPIDAE
Artace cribrarius May, June, July
Heteropacha rileyana May, June, July
Malacosoma americana May
Malacosoma disstria May

LIMACODIDAE
Adoneta gemina May
Adoneta pygmaea June
Apoda biguttata May, July
Apoda y-inversa May, June, July
Euclea delphinii June, July
Heterogenea shurtleffi July
Isa textula May
Isochaetes beutenmuelleri May, June
Monoleuca semifascia June
Phobetron pithecium May, June
Prolimacodes badia May, June

LYONETIIDAE
Leucoptera erythrinella

MEGALOPYGIDAE
Megalopyge opercularis May, June, July

MOMPHIDAE
Mompha rufocristatella May
Mompha murtfeldtella June

NOCTUIDAE
Acronicta afflicta May
Acronicta connecta May
Acronicta insularis May, June, July
Acronicta longa May
Acronicta morula May, June, July
Acronicta oblinita May, July
Acronicta ovata June
Acronicta rubricoma June
Anicla infecta June, July
Azenia obtusa May, June, July
Cerma cerintha May, July
Charadra deridens May, June
Condica sutor July
Condica videns May, June, July
Crambodes talidiformis June
Ctenoplusia oxygramma June
Cydosia aurivitta May, June, July
Elaphria chalcedonia May
Elaphria exesa May
Eudryas grata May, June
Eudryas unio May
Feltia subterranean May
Galgula partita May, June, July
Harrisimemna trisignata May
Helicoverpa zea June, July
Homophoberia apicosa July
Leucania adjuta July
Leucania incognita July
Leuconycta lepidula May
Marimatha nigrofimbria May, June, July
Metaponpneumata rogenhoferi May
Ogdoconta cinereola July
Ozarba nebula May
Peridroma saucia June
Polygrammate hebraeicum July
Ponometia candefacta May, June
Ponometia erastrioides June. July
Protodeltote muscosula May, June
Pseudeustrotia indeterminata May, June
Raphia frater May, June, July
Spodoptera dolichos May, June
Spodoptera frugiperda June, July
Spodoptera ornithogalli May, June, July
Spragueia apicalis July
Spragueia dama May
Spragueia guttata May
Spragueia leo June, July
Tarache aprica May, June, July
Tripudia rectangular May, July

NOLIDAE
Afrida ydatodes May, June, July
Baileya acadiana May, June, July
Baileya ophthalmica May
Baileya sp. July
Diphthera festiva May
Garella nilotica May, June, July
Meganola minuscula July
Meganola sp. June
Nola cereella May, June, July

NOTODONTIDAE
Cecrita guttivitta May, June, July
Clostera inclusa May, June, July
Coelodasys unicornis May
Datana integerrima May, June, July
Furcula cinerea May
Gluphisia septentrionis May, July
Ianassa lignicolor July
Lochmaeus bilineata May
Lochmaeus manteo May
Macrurocampa marthesia July
Misogada unicolor May
Nadata gibbosa May, July
Oedemasia leptinoides May, June, July
Paraeschra georgica May
Peridea angulosa May, June, July
Rifargia subrotata May
Symmerista sp. July

OECOPHORIDAE
Inga sparsiciliella May

PLUTELLIDAE
Plutella xylostella June

PSYCHIDAE
Cryptothelea sp. May, June
Oiketicus abbotii July

PTEROPHORIDAE
Exelastis montischristi July
Pselnophorus belfragei May, June, July
Stenoptilia sp. May
Stenoptilodes sp. July

PYRALIDAE
Acrobasis demotella May
Acrobasis exsulella June, July
Acrobasis texana May, June, July
Adelphia petrella May, June, July
Arta olivalis July
Canarsia ulmiarrosorella June
Clydonopteron sacculana May, June, July
Dioryctria pygmaeella June, July
Ephestiodes sp. May, July
Epipaschia superatalis May, July
Eulogia ochrifrontella July
Galasa nigrinodis May
Homoeosoma electella May, June
Hypsopygia binodulalis July
Laetilia coccidivora May, June
Macrorrhinia endonephele May, June, July

Moodna ostrinella July
Penthesilea sacculalis July
Phycitodes reliquellum May, June
Pococera asperatella May, June, July
Pococera expandens July
Pococera humerella June, July
Pococera militella July
Pyralis sacculalis July
Salebriaria engeli July
Salebriaria sp. July
Sciota celtidella May, June, July
Sciota uvinella May, June, July
Tallula atrifascialis May, June, July
Tampa dimediatella May, June, July
Tlascala reductella May, June, July

SATURNIIDAE
Actias luna May, June, July
Anisota virginiensis May, June
Antheraea polyphemus May, June
Automeris io May, July
Citheronia regalis July
Eacles imperialis May, June
Syssphinx bicolor May

SESIIDAE
Synanthedon scitula June

SCYTHRIDIDAE
Scythris trivinctella July

SPHINGIDAE
Amorpha juglandis May, June
Ceratomia amyntor May, June
Ceratomia undulosa May
Darapsa myron May, July
Dolba hyloeus May, July
Eumorpha pandorus May, June
Hyles lineata May
Isoparce cupressi June
Manduca rustica July
Manduca sexta June
Smerinthus jamaicensis June
Xylophanes tersa June, July

TINEIDAE
Acrolophus heppneri May, June, July
Acrolophus piger May
Acrolophus popeanella June, July
Acrolophus texanella July
Homostinea curviliniella July

TORTRICIDAE
Aethes sp. May, June, July
Ancylis comptana May
Ancylis platanana June
Archips argyrospila May
Archips semiferanus May
Argyrotaenia ivana June
Argyrotaenia quercifoliana May, June
Argyrotaenia tabulana June
Bactra furfurana May
Bactra verutana May, June, July
Cenopis diluticostana May
Cenopis ferreana May, June
Choristoneura pinus May
Choristoneura rosaceana May, June
Clepsis peritana May, June, July
Cochylichroa hospes June
Cochylis bucera May, June
Coelostathma discopunctana May
Cydia caryana May, June, July
Cydia ingens May
Cydia latiferreana July
Endothenia hebesana May, June, July
Epiblema abruptana May, June, July
Epiblema desertana May
Epiblema otiosana July
Epiblema scudderiana May, June
Epiblema strenuana May, June, July
Epiblema tripartitana July
Episimus argutana June, July
Eucosma grindeliana July
Eucosma radiatana group May, July
Eugnosta erigeronana June, July
Eumarozia malachitana May, June, July
etchena bolliana June, July
Gymnandrosoma punctidiscanum June
Gypsonoma salicicolana May, June
Larisa subsolana May, June, July
Olethreutes sp. June
Pandemis limitata July
Paralobesia viteana May, June, July
Platphalonidia magdalenae May, June
Platynota flavedana May
Platynota rostrana May, June, July
Platynota semiustana May, June
Rhopobota dietziana May
Rhpacionia frustrana May
Rhyacionia rigidana May
Sonia constrictana June, July
Sparganothis distincta May
Sparganothis pulcherrimana May
Sparganothis sulfureana May, June, July
Sparganothoides lentiginosana June

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

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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: marccminno@gmail.com, and dues may be sent to Jeffrey R. Slotten, Treasurer, 5421 NW 69th Lane, Gainesville, FL 32653.

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SOUTHERN LEPIDOPTERISTS' SOCIETY
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Lubbock, Texas 79413

PLEASE MAKE PAYMENT OF DUES TO:
"THE SOUTHERN LEPIDOPTERISTS' SOCIETY"

SEND PAYMENT OF DUES TO:
JEFFERY SLOTTEN
5421 NW 69th Lane
Gainesville, FL 32653