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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

"*Butterflies and moths face myriad hazards from other hungry critters that want to make a meal out of them.*" See page 301 for Bryan E. Reynolds photo essay "CHOMP, THE DAILY PERILS OF BUTTERFLIES AND MOTHS" on this "*...natural process ....part of a healthy and balanced ecosystem.*"

White-banded crab spider, *Misumenoides formosipes*, with gulf fritillary, *Agraulis vanillae*, on thistle, *Cirsium* sp., Lexington Wildlife Management Area, Cleveland County, Oklahoma, 19 September 2005

←

Robber fly, *Efferia* sp., male feeding on captured arogos skipper, *Atrytone arogos*, Wichita Mountains National Wildlife Refuge, Comanche County, Oklahoma, 10 June 2006

→

WELCOME TO OUR NEWEST MEMBER

Michael Sabourin
630 Beaver Meadow Rd.
Marshfield, Vermont 05658

MANY THANKS TO THE FOLLOWING INDIVIDUALS WHO HAVE RECENTLY CONTRIBUTED TO THE SL SOCIETY

Contributor	*Benefactor*	*Benefactor+*
Alma Solis	*Susan Llorca*	*Jacqueline Miller*

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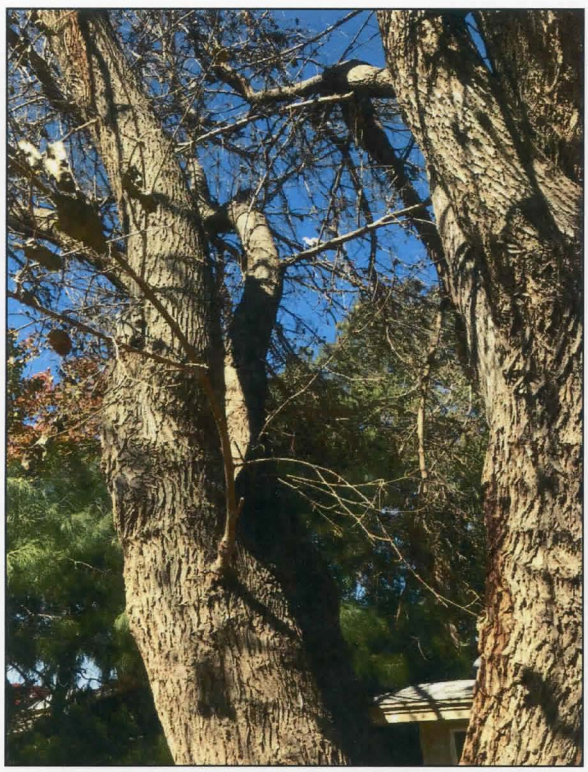

Photo taken November 7, 2020, in Lubbock, Texas. While obviously a dove the question became what species? A colleague who knows a lot more about the birds of West Texas than I stated the following: "*It's a dove. If it has a ring around its neck it's an Eurasian dove. If it has white on its wing but no neck ring it is a White winged dove.. If it has no ring and no white on the wing it is a mourning dove.*" Unfortunately not close enough to the dove to make these distinctions.

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A newsletter, The News of the Southern Lepidopterists' Society is published four times annually.

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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)."

IDENTIFICATION OF THE CATERPILLARS INFESTING TAMARIND FRUIT ON VACA KEY, FLORIDA

BY

LAWRENCE J. HRIBAR

Earlier this year I reported a caterpillar that I found in my backyard tamarind tree, a pupa that I preserved, and some adults that I managed to rear (Hribar 2020). In that paper I stated that I believed that the moth was the carob moth, Ectomyelois ceratoniae (Zeller, 1839) (Pyralidae). I also wrote that I was attempting to rear more adults. Since then, I was able to rear out two more adult moths, to collect three caterpillars, and to preserve a set of pupal exuviae. All of these specimens (caterpillars, pupa, pupal exuviae, and adults) were sent to the Florida State Collection of Arthropods (FSCA) in Gainesville. James E. Hayden generously took the time to identify the specimens and confirmed my tentative identification. The FSCA now has in its collection one adult male, three adult females, three larvae, one pupa, and one set of pupal exuviae from Vaca Key, Monroe County, Florida. This is a new locality record for the carob moth and these specimens appear to be the first collected in Monroe County since 1963. I thank James E. Hayden, Florida State Collection of Arthropods, for identifying the specimens.

Literature Cited

Hribar, L.J., 2020. A caterpillar in tamarind fruit on Vaca Key, Florida. *Southern Lepidopterists' Society News* 42(3): 199–200.

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

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Two flowers that survived a severe freeze in Lubbock Texas, in late October 2020.

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NEW HOST PLANT DOCUMENTED FOR *AROGALEA CRISTIFASCIELLA*, WHITE STRIPE-BACKED MOTH, WITH LARVAL DESCRIPTION

BY

ROYAL TYLER

This paper is to document the occurrence and life cycle of this Gelechiid in Northwest Louisiana. The host plants are very poorly documented and a new one is established.

Location

The study site is The Royal Hills farm, a 153 acre tree farm located in Caddo Parish, Louisiana. This is the NW corner of the state, not far south of Texarkana, Arkansas. It is approximately 120 acres of upland shortleaf pine (*Pinus echinata*) and loblolly pine (*Pinus taeda*) ecosystems, with about 25 acres of creek bottoms of hardwoods and cypress, and 2-3 miles of pipelines and woods roads providing good access and openings. Soils are predominately deep, sandy to sandy loam acid soils.

Host plants

Leckie and Beadle (2018) reported hosts as unknown. The website BugGuide cites an entry by M.J. Hatfield as collected from Chinkapin Oak, *Quercus muehlenbergii* from 2016. Lee and Brown (2008) list *Quercus* spp. as hosts. This paper adds *Castanea pumila,* Allegheny chinquapin, as a host species.

Geographic range

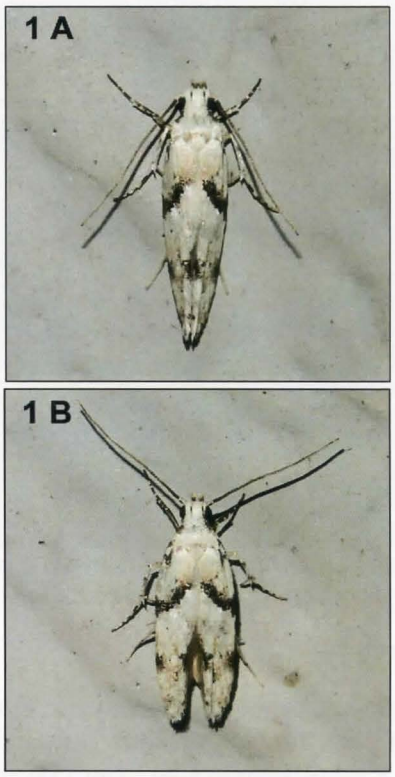
The range of this species is listed by Leckie and Beadle (2018) as Oklahoma and Texas eastward to North Carolina and South to Florida. BOLDSYSTEMS website lists a much broader range, with specimens collected as far North as SE Canada (12 specimens) and the NE US down the East coast to Florida. They also list Michigan, Missouri, Illinois, Indiana, and Ohio. The website BugGuide also adds Kansas and Nebraska. A better description going forward is the eastern half of the US, from TX northward to NE, north and east to the great lakes region, eastward throughout SE Canada and the NE US, then south all the way to Florida.

Taxonomy/Identification

Lepidoptera; Gelechioidea; Gelechiidae (twirler moths); Gelechiinae; Litini; Arogalea; *Arogalea cristifasciella* - Stripe-backed Moth

This genus includes one species occurring in eastern North America (Lee and Brown 2008).

Adults can be described as being whitish with a black AM band that slants backwards towards the inner margin, and ends with a raised tuft near the inner margin. There is also a black spot further down the costa described by Leckie and Beadle (2018) as being a "black blotch in the outer PM area"(photos 1A through 1C). TL is 5mm to 6mm.



Photos 1A and 1B. This is the two most common postures observed for adults (*Arogalea cristifasciella*) at rest. Photos by Royal Tyler, 3-26-20, of same specimen. Caddo Parish, LA.

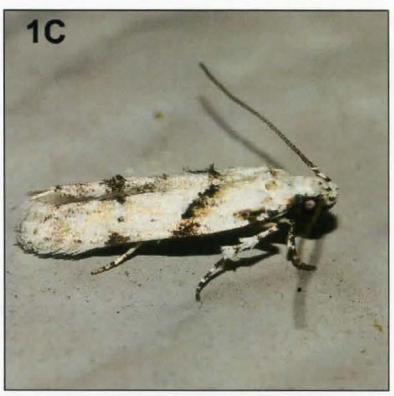


Photo 1C. Lateral view of adult *Arogalea cristifasciella.* Photo by Royal Tyler, 3-9-18. Caddo Parish, LA.

Larvae are very distinctive, being a brightly striped larvae with colors of red wine and silvery grey (photo 2A). The head is orange/brown in color (photo 2B), followed by the first couple of abdominal segments being solid wine before beginning the alternating stripes.

Photos 2A and 2B. *Arogalea cristifasciella* larvae. Photos by Royal Tyler, June 1, 2020. Caddo Parish, LA.

Occurrences

In 2020 adults were seen on the study site in March, then again end of May through early July, then in September. With such a small sample size I can't be sure, but the data appear to suggest it being trivoltine or bivoltine. The iNaturalist webpage for this species has a chart of occurrences which clearly shows a pattern of the moth being bivoltine nationally, but it's very probable that in the South we could have additional smaller generations. The data are inconclusive right now due to the small sample size.

Life Cycle

Not much is known about the life cycle, but on two occasions in 2020 mature larvae were collected on Allegheny chinquapin (*Castanea pumila*) and reared into adults. This was on May 28, 2020, and June 1, 2020. This same tree was searched multiple times throughout the summer with no more found. In both cases, 32-33 days later adults emerged.

The larvae fed inside shelters constructed by silking two or more leaves together and feeding between them. The pupae were also formed within a leaf tier. Photo 3A is an example of what feeding patterns and a spent pupal case look like after pulling leaves apart.

The *Arogalea* larvae were interspersed with quite a few *Pleuroprucha insulsaria* larvae, feeding on the same tree.

Photo 3A. Pupal case and larval feeding patterns of *Arogalea cristifsciella*. Photo by Royal Tyler, 7-1-20. Caddo Parish, LA.

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NEW HOST PLANT DOCUMENTED FOR *PALPITA ILLIBALIS*, INKBLOT PALPITA

BY

ROYAL TYLER

This paper is to document the occurrence and life cycle of this Crambid moth in Northwest Louisiana. The host plants had not previously been reported and a new one is established.

The study site is The Royal Hills farm, a 153 acre tree farm located in Caddo Parish, Louisiana. This is the NW corner of the state, not far south of Texarkana, Arkansas. It is approximately 120 acres of upland shortleaf pine (*Pinus echinata*) and loblolly pine (*Pinus taeda*) ecosystems, with about 25 acres of creek bottoms of various hardwoods and baldcypress (*Taxodium distichum*), and 2-3 miles of pipelines and woods roads providing good access and openings. Soils are predominately deep, sandy to sandy loam soils.

Palpita illibalis (Photo 1A) was first described in 1818 by Jacob Hubner. It is found in North America, where it has been recorded from Texas and Oklahoma, eastward to the Atlantic coastal states, and as far North as Ohio, Maryland, and Pennsylvania (iNaturalist and North American Moth Photographers Group 2020). The wingspan is about 25 mm. According to iNaturalist and BugGuide data, adults have been recorded on wing from late March through September, with most records from June to August.

Taxonomy/Identification

Crambidae, subfamily Spilomelinae, Genus *Palpita* Hubner (1818) includes 12 species in the USA (Scholtens and Solis 2015). *Palpita illibalis* is by far the most common *Palpita* species on the study site. Several other species have been recorded, such as *Palpita freemanalis, Palpita magniferalis*, and *Palpita quadristigmalis* (photo 2E). It is suspected that *Palpita arsaltealis* might also occur on the site, but as of the time of publication it has not been verified via dissection or DNA.

Photo 1A. *Palpita illibalis*, 7-2-20, slightly faded dark form, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Photo 1B. *Palpita illibalis*, 8-9-20, dark color form, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Photo 1C. *Palpita illibalis*, 7-2-18, lighter, reddish brown color form, Royal Hills farm, Caddo Parish LA, (Photo by Royal Tyler)

Adult identification

P. illibalis is one of the more consistent in appearance of the Genus on the study site, with the white color of the forewings and the hindwings, and a brown stripe along the costa that extends the full length of the forewing occurring on all 70 specimens recorded on the study site. There are also conspicuous spots along the costa, with the most pronounced being a large brown reniform spot, with medial, antemedial, and basal spots getting steadily smaller towards the basal edge of the costa. See Photo 1A. There is additional brown flecking of various amounts throughout the forewings, but less than in *P. freemanalis* (photo 2A through 2C), much less than *Palpita magniferalis* (photo 2D and 2E), and *P. arsaltealis* (photo 2F).

The hindwings consistently have spots adjacent to the large reniform spots of the forewings. This was also seen across all specimens recorded on the study site. There is much less brown flecking on the hindwings than the forewings. The abdomen of specimens collected here are also white, with a couple of consistent markings across all specimens. There are two dots side by side in the antemedial area of the abdomen. Additionally there is a marking which resembles two brown spots with a line connecting them (usually) about midways down the abdomen.

Photo 1D. *Palpita illibalis*, 7-28-20, lighter, reddish brown color form, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Photo 2A. *Palpita illibalis* above, *Palpita freemanalis* below, 8-30-17, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Photo 2B. *Palpita freemanalis*, 8-9-20, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

There is a white fringe across the terminal edge of the forewing and hindwing, lined by a narrow brown band where it connects to the wing that is usually visible. The overall shade of brown in the markings does vary considerably from a light reddish brown similar to that of *Palpita freemanalis*, to a very dark brown, almost black.

Photo 2C. *Palpita freemanalis*, 9-12-20, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Photo. 2D. *Palpita magniferalis* female, 8-15-20, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Photo 2E. *Palpita magniferalis*, 8-20-20, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

There is much less variability in appearance of this species on this site, especially in the amount of flecking, than what appears to occur across the country (iNaturalist and BugGuide photos observed). This is also believed to be because of many specimens being misidentified as *illibalis* that are actually *P. freemanalis* or *P. magniferalis*. Specimens such as this one identified in photo 2C resembles specimens previously erroneously identified as *P. illibalis*. The amount of specking on the wings and the darker abdomen point to the ID of *Palpita freemanalis*. This specimen was confirmed as *Palpita freemanalis* via dissection (by Brian Scholtens).

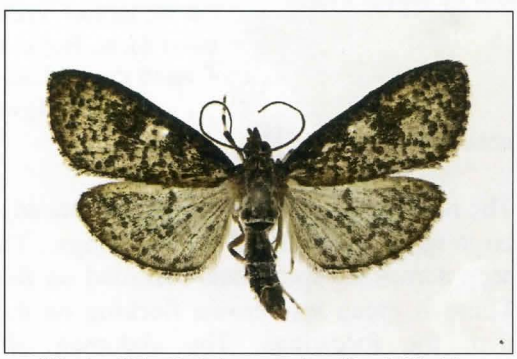

Photo 2F, *Palpita arsaltealis*, 6-29-12, Mud Lake Bog, Cheboygan Co., MI (Photo by Brian Scholtens)

Photo 2G. *Palpita qudristigmalis*, 5-24-19, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Occurrences

On the study site this species is occurring primarily from May through early September. June through August they are likely to be seen on any given night at a light trap or observation setup. Larvae begin appearing in June with a significant number seen in July.

Life cycle and larval descriptions

Photo 3A. *Chionanthus virginicus* leaves attached with silk, 7-22-20, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Photo 3B. *Chionanthus virginicus* leaves separated to expose larvae and surface feeding patterns, 7-22-20, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Larvae of *Palpita illibalis* were discovered to be feeding on *Chionanthus virginicus* L., known commonly as white fringetree, fringetree, Grancy graybeard, or old man's beard. This species is in the Oleaceae family, which also includes Fraxinus (ash) species which have been reported as the host of *Palpita magniferalis* (BugGuide). The range of *Palpita illibalis* very closely resembles that of it's host (Exhibit A). This author has observed that fringe tree leaves stay very clean throughout spring, and only when temperatures rise (June) do insects begin to show up much feeding on the leaves. This is also true of *P. illibalis* larvae feeding, which was not recorded early season.

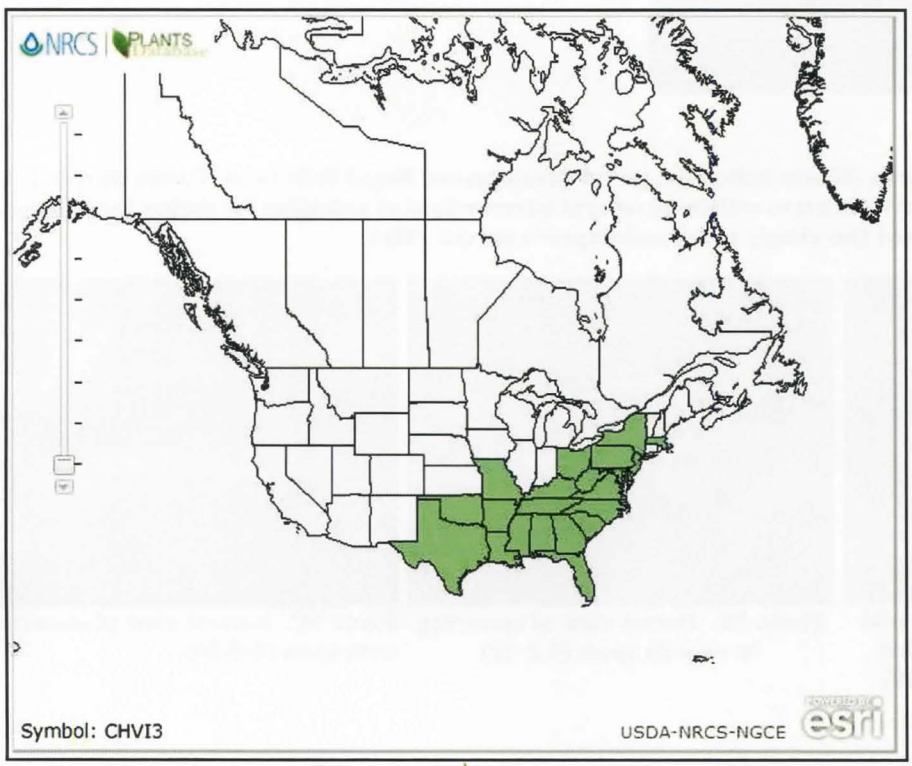

Exhibit A.
Chionanthus virginicus
white fringetree
native range map

Larvae were found beginning in June, and larval damage becomes very obvious during July and August. Young larvae are typically hard to see. They are light green in color, and either bind two leaves together with webbing and feed between them (photo 3A and 3B), or are found inside a cocoon like structure they create by folding a leaf to feed within (photo 3C through 3E). They are shelter feeders throughout the entire larval stage.

Photo 3C. *Chionanthus virginicus* leaf unfolded to expose larva, 7-22-20, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Photo 3D. *Chionanthus virginicus* leaf unfolded to expose larva, 7-22-20, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Photo 3E. *Chionanthus virginicus* leaf unfolded to expose pupa, 6-16-20, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Larvae are consistently light green in color in early larval stages, with only a small amount of black spots on the first couple of abdominal segments like seen in photo 4A. Most remain this color and pattern until pupal stage (examples 6A through 6D), but one example was recorded that developed a distinct spotted pattern throughout the length of the larva (photos 4A, 5A through 5F). Only one of the 7 specimens successfully reared was observed developing these spots, but it's possible more did since they feed and develop inside shelters and were not disturbed constantly to view every phase of development.

Photo 4A. *Palpita illibalis*, 7-22-20, larva close-up after leaves separated, Royal Hills farm, Caddo Parish, LA (Photo by Royal Tyler)

Photos 5A through 5G one *Palpita illibalis* individual larval development, Royal Hills farm, Caddo Parish, LA (Photos by Royal Tyler). This individual was able to withstand several interruptions of unfolding the shelter for photographs but most specimens were not followed this closely to try and improve survial rates.

Photo 5A. Early instar larva solid green with black specks on first couple segments only (7-22-20)

Photo 5B. Dorsal view of maturing larva with spots (8-8-20)

Photo 5C. Lateral view of maturing larva with spots (8-8-20)

Photo 5D. (8-13-20)

Photo 5E. (8-16-20)

Photo 5F. Larger view showing feeding patterns inside shelter (8-18-20)

Photo 5 G. Adult emerges (9-5-20)

The entire life cycle takes at least two months, with photos 5A through 5G being a good example of a timeline from younger larvae through adult emerging 6 weeks later. Attempts were made unsuccessfully to get adults to lay eggs in containers, and many leaves were searched for eggs, but none found so this portion of the timeline is unknown.

Pupal development also occurs completely within the shelters, and were consistently found inside the same shelters that larvae fed inside. Photos 7A through 7E are a good example of a timeline and of location of feeding shelters, as well as the color and shape of developing pupa. The first photos are a young pupa, followed by a darker, older pupa. Photo 7D is a pupal case and 7E the adult emerging 3 weeks after the pupa develops.

Photos 6A through 6D. One *Palpita illibalis* individual through last two weeks before pupation. Individual did not survive and become adult. Royal Hills farm, Caddo Parish, LA (Photos by Royal Tyler)

Photo 6A. Leaves separated for photos. Larva is 13mm long (8-5-20)

Photo 6B. Pre-pupal larva view inside the shelter (8-13-20)

Photo 6C. Close-up of same pre-pupal larva (8-13-20)

Photo 6D. Pupa observed (8-16-20)

Photos 7A through 7E. One *Palpita illibalis* individual through the last 2½ weeks before eclosing. Royal Hills farm, Caddo Parish, LA (Photos by Royal Tyler)

Photo 7A. *Chionanthus virginicus* leaf unfolded to expose *Palpita illibalis* pupa (6-16-20)

Photo 7B. Close-up of the pupa (6-16-20)

Photo 7C. Mature pupa (6-28-20)

Photo 7D. Pupal case (7-4-20)

Photo 7E. Adult eclosed (7-4-20)

Photos 8A through 8E is another example from a mature larva developing through to adult. One of the notable points from this individual is that sometimes when a folded leaf is used as a shelter, towards maturity the top part of the shelter (which has been fed on extensively) deteriorates and additional webbing is spun and the larvae is sometimes more visible than in early stages.

Photos 8A through 8E. One *Palpita illibalis* individual through the last 4 weeks before eclosing. Royal Hills farm, Caddo Parish, LA (Photos by Royal Tyler)

Photo 8A, Larva in shelter (7-14-20)

Photo 8B. Close-up of face of the 19mm larva (7-14-20)

Photo 8C. Mature pupa (8-8-20)

Photo 8D. Pupal case (8-11-20)

Photo 8E. Adult eclosed (8-11-20)

Conclusion

There is some uncertainty about identification of *Palpita illibalis* further east, including a species group referred to by Munroe (1952) as *Palpita euphaesalis* and *Palpita subjectalis*, that later are treated as new synonyms of *illibalis* in Munroe (1995), Trop. Lepid., 3: 70, without explanation. Many of the online specimens ID'd as *P. illibalis*, appear to be this species group, distinct from western *illibalis* recorded in this study that do not have the darker markings (especially the darker abdomen). In conversations with multiple individuals that recorded these specimens, the host plant of *Chionanthus virginicus* is lacking where these *P. euphaesalis* types were recorded as *illibalis*. It would be a good topic for further analysis, including genetic testing.

Special Thanks to Brian G. Scholtens for numerous conversations and his assistance with dissection to confirm the species of numerous individuals.

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GENUS *CUTINA* (NOCTUIDAE) MOTHS IN NW LOUISIANA

BY
ROYAL TYLER

This paper is a documentation of the occurrence and identifying characteristics of the Noctuid moths in the genus *Cutina* in Northwest Louisiana. There are 4 species occurring in the SE US and all are associated with cypress trees (*Taxodium* sp.).

Location

The study site is The Royal Hills farm, a 153 acre tree farm located in Caddo Parish, Louisiana. This is the NW corner of the state, not far south of Texarkana, Arkansas. It is approximately 120 acres of upland shortleaf pine (*Pinus echinata*) and loblolly pine (*Pinus taeda*) ecosystems, with about 25 acres of creek bottoms of various hardwoods and cypress, and 2-3 miles of pipelines and woods roads providing good access and openings. Soils are predominately deep, sandy to sandy loam soils.

The host plant for this genus of moth was reported by Pogue and Ferguson (1998) as being *Taxodium* (cypress trees). *Taxodium distichum* occurs on the study site including in proximity to the light setups where this species has been recorded.

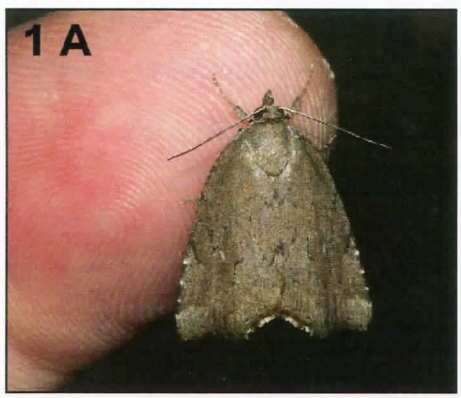
Taxonomy/Identification

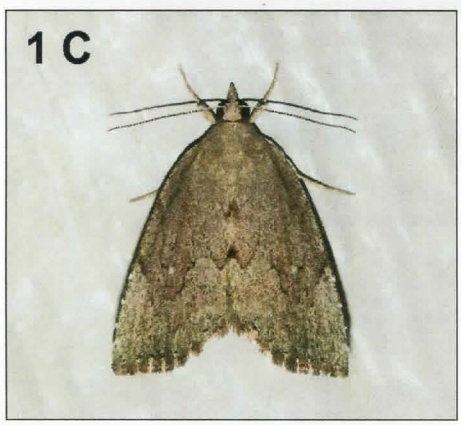
Lepidoptera; Erebidae; Erebinae; Poaphilini; *Cutina*: Genus *Cutina* includes 4 species of moths in North America according to Pogue and Ferguson (1998) *A revision of the cypress-feeding moths of the genus Cutina Walker (Lepidoptera: Noctuidae)*. The only three species documented on the study site are *Cutina albopunctella* Walker, *Cutina aluticolor* Pogue and Ferguson, and *Cutina distincta* Grote.

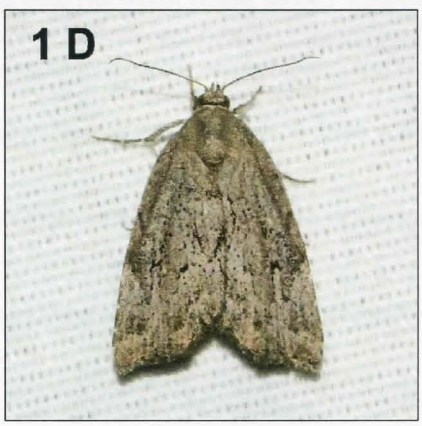
Photos are included for aid in identification. Per Pogue and Ferguson "all species of *Cutina* can be readily distinguished by comparing specimens to the illustrations of adults". I will add that the same applies to modern digital photographs. These species can be readily identified by differences in appearance of the forewings from photos taken of the adults at rest.

***Cutina albopunctella* Walker.** Cypress Looper or White-spotted Cutina moth (photos 1A - 1D)

This is the most common *Cutina* species on the study site. It can be seen most nights May through August, and on warm nights in March and April.





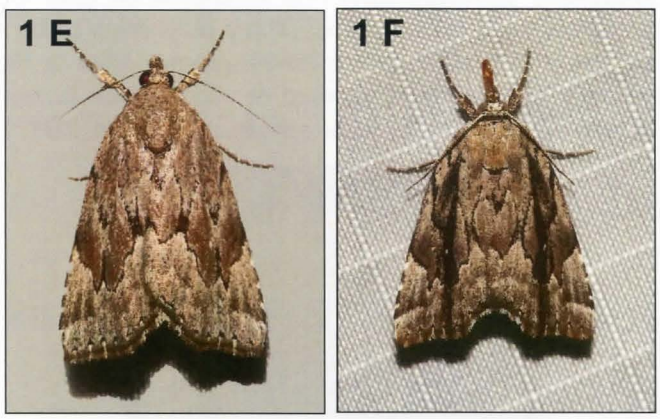


Photos 1A - 1D,
***Cutina albopunctilla* Walker**
1A. Taken 6-15-18
1B, Taken 5-25-20
2C. Taken 7-20-18
2D. Taken 5-25-19
All photos by Royal Tyler,
Royal Hills farm,
Caddo Parish, LA

Description

Four photos are included for a general view of the appearance and the slight variations we see occurring in this area. *Cutina albopunctella* is easily distinguished from the other species of *Cutina* by its larger size (11-14mm FW length) and its brownish gray appearance. It has a mottled appearance but often also has visible striations that can be whitish or dark brown. They also often appear a lighter shade of brown below the submarginal line as in photo 1C. Small white discal spots are sometimes visible, as in photos 1A through 1C, but also often not clearly distinguishable as in 1D. There are usually 3 white spots along the lower portions of the costal edge as seen in all 4 photos, but most obviously in photo 1A. Leckie and Beadle (2018) describe this area as "Grayish brown forewing always has three tiny white dots along the costa below the PM line". I would disagree with "always" as I have collected worn individuals that the spots are not visible, and would clarify that on fresh individuals the spots are usually visible. A percentage of the specimens (mostly the fresher ones) also displayed an area of whitish fringe along the marginal band as seen most clearly in photo 1A.

It should be noted that the Louisiana phenotype observed here appears much drabber in appearance compared to the boldly marked adults seen in Florida. See attached photos 1E and 1F, and notice the definition of all the markings compared to the Louisiana specimens. Pogue and Ferguson also addressed this variation in appearance, and noted that they saw no significant differences genetically throughout the range despite the differences in appearance.



Photos 1E and 1F. *Cutina albopunctella* Walker
1E. Taken 5-8-18 Wakulla County, Florida.
1F. Taken 5-9-18 Wakulla County, Florida
(Courtesy of Laura Gaudette)

In researching the digital photographs available online at the time of printing, most states west of Florida appear to more closely resemble those of Louisiana, while states from Florida northward up the east Coast more closely resemble Florida specimens.

Flight period

For most of the range the flight period appears to be March through August based on reporting by citizen science sites such as iNaturalist and BugGuide. On the study site in NW Louisiana, the 67 collection dates have been mostly March through August. May 15 through August 30 adults can be seen on any given night. Some of the differences in frequency of sightings between March-April and May-August could be attributed to cooler weather limiting the sightings early. All of the sightings outside of the March through August time frame on BugGuide and iNaturalist have been from the coast of South Texas or Florida and small in number. These were primarily February and early September.

Pogue and Ferguson had described the flight period as end of February, end of March, through end of September.

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Distribution: This species appears to closely follow the range of its host species, *Taxodium distichum*. This includes Maryland, south along the coast through to Florida, then westward to east and central Texas. Pogue and Ferguson also reported a few individuals from Missouri, and stated could occur as far north as Southern Indiana. This follows the range map of Baldcypress pretty closely as shown in Fig. 1.

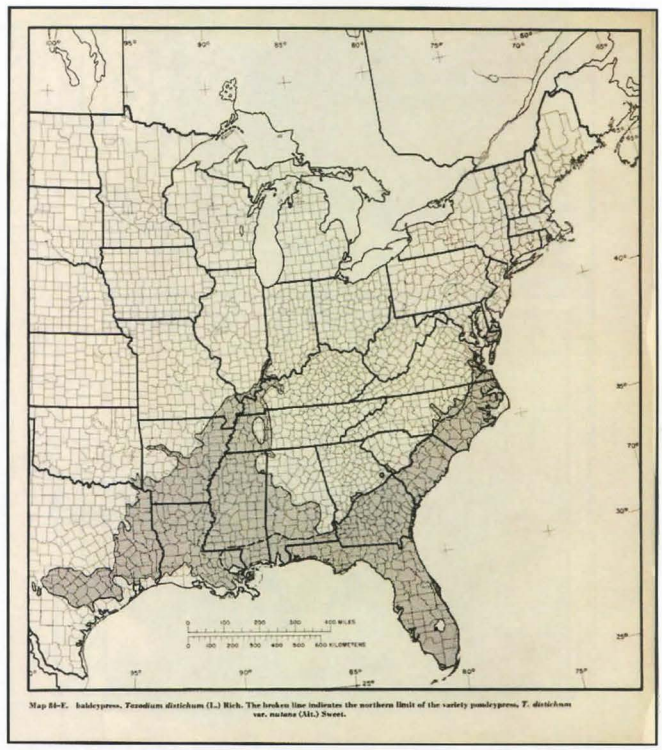


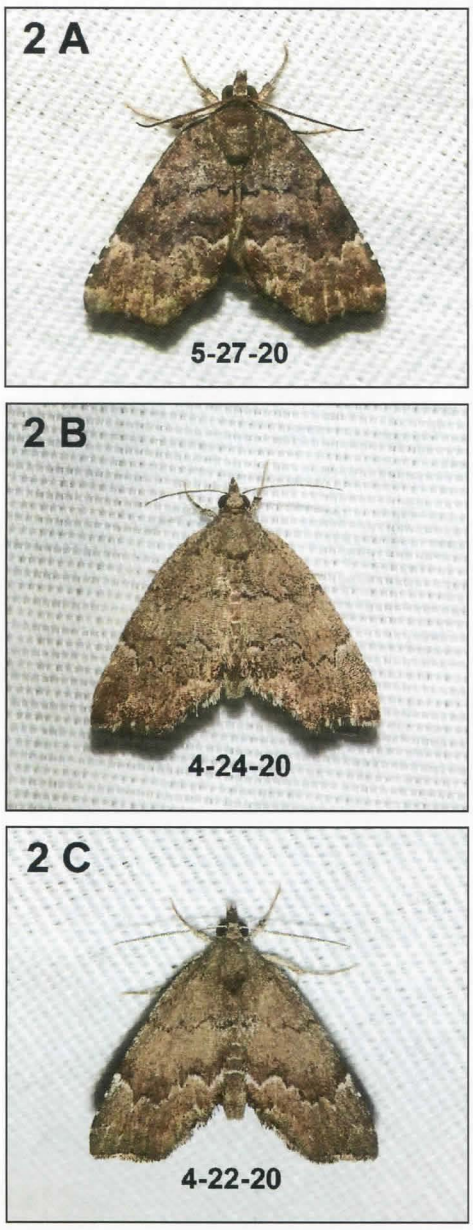
Fig. 1. Range map of Baldcypress

Cutina aluticolor Pogue and Ferguson

Cutina aluticolor appears to be about half as common as *C. albopunctella* on the study site. It can be classified as an occasional visitor to the lights from the end of March through August each year. The last sighting of the year has consistently been the last few days of August each year. In continuous sampling for approximately an hour each night in 2020, specimens were collected on 26 dates. Thirty-nine dates overall during 2019-2020 specimens were recorded.

Description

This species of *Cutina* is slightly smaller than *C. albopunctella*, with some overlap. The smallest *C. albopunctella* is the same size as the largest *C. aluticolor*. They are listed by Pogue and Ferguson as from 9mm-11.2mm forewing length. There are distinct differences in appearance between the two species though, as seen in photos 2A through 2C, compared with 1A through 1F.



Photos 2A - 2C. _Cutina aluticolor_ Pogue and Ferguson. Photo by Royral Tyler. Royal Hills farm, Caddo Parish, LA

The base color of the forewings is light brown. There is a fairly distinct antemedial line, usually dark brown to black, though sometimes also marked with a white line above. This antemedial line was absent from Pogue and Ferguson's description, but I am assuming this was just an oversight since they didn't mention a lack of antemedial line either. Postmedial line is also black, with white scales usually highlighting it, especially around the costa and the inner margin. Some individuals have been observed that are worn enough the black has worn off and the postmedial line appears solid white. The identifying features that I have noted as most obvious are the distinctive shape of the *Cutina* genus which includes especially the angles along the terminal area, the antemedial and postmedial lines mentioned above and especially the white scales around the postmedial line near the costa and inner margin, and the light brown color.

The regional variations in colors and patterns do not appear to be as wide as they were with *C. albopunctella*. Pogue and Ferguson stated that "specimens from Florida tend to have a lighter ground color, more distinct pattern, and a tornal patch". They also stated that specimens outside Florida were darker, and had no tornal patch. I believe they were referring to a dark brown/black patch in the terminal area of the forewings as the "tornal patch". This turns out to be mostly true, but several specimens collected from NW Louisiana do have the patch although most do not. There does seem to be a tendency towards a darker brown ground color in the western specimens, compared to the lighter brown, almost tan, of the Florida specimens (Photo 2D). I

Photo 2D. _Cutina aluticolor_ Pogue and Ferguson. Photo by Laura Gaudette (2-22-10), Wakulla County, Florida

believe this to be the reason the patterns do not stand out as much on the western species. There is less contrast compared to the dark antemedial and postmedial lines of the Florida specimens on a lighter, tan background.

Flight period

Similar to other *Cutina* species, *Cutina aluticolor* appears to be active from March through August primarily, with a few seen in February or September in more Southerly areas. On this NW Louisiana site, May through August are the most likely times to encounter this moth.

Distribution

Distribution is similar to other *Cutina* species, closely following the range of Baldcypress trees. From the Gulf Coastal states northward to the Southern edge of Illinois and Indiana.

***Cutina distincta* Grote**

This is the least common of the three *Cutina* species reported on this site. It was seen twice in 2019 from occasional sampling, and in 2020 only six times out of daily sampling the entire season. The first one of 2020 was recorded March 28, and no more were seen until June. The final observation was on August 15.

Description

C. distincta is much more difficult to describe than the other two *Cutina* appearing here. It doesn't really have a base color, although it has been described as light brown (Pogue and Ferguson 1998 and Leckie and Beadle 2018)) and gray (by the website BugGuide). It has so many patterns I believe it is best described as various shades of gray, brown, and black. See photos 3A and 3B.

Photo 3A. *Cutina distincta* Grote. Photo by Royal Tyler (3-28-20). Royal Hills farm, Caddo Parish, LA

Photo 3B. *Cutina distincta* Grote. Photo by Royal Tyler (5-17-19). Royal Hills farm, Caddo Parish, LA

It has the typical forewing shape of *Cutina* species, and a unique feature of the wings not quite closing when at rest making the abdomen visible. This is not seen in *C. albopunctella* or seen as often and not quite as distinctive in *C. aluticolor*. The abdomen in *Cutina distincta* is a base color of light brown with bold white horizontal stripes across.

The antemedial line and postmedial line that were present in *C. albopunctella* and *C. aluticolor* are also present in *C. distincta*, though much more "distinct". The lines are a dark brown/black color. On the antemedial line, in the last section where it turns upward towards the abdomen, it is highlighted with a white line above, almost a patch it is so bright. The antemedial line also has a white stripe below, most of the way across the forewing. Leckie and Beadle (2018) describe this as "broad whitish band below a dark AM line".

Between these two lines is two patches of horizontal color, with white above and tan below. There is quite a few patches of color scattered throughout the rest of the forewings.

Flight period

I can only guess that the flight period is similar to the other *Cutina* periods, as I have such a small sample size on the study site. Nationwide the flight patterns appear to fit the patterns previously described as February through September (per BugGuide and iNaturalist).

Conclusion

The Genus *Cutina* is less common than many Genus of moths, primarily due to the species-specific host of Baldcypress, which only grows in swamps. It is no surprise that the most commonly reported sites on the citizen science sites are in East-Texas, Louisiana, and Florida, where many more swamps are present.

References

M. G. Pogue, D. C. Ferguson, 1998. A revision of the cypress-feeding moths of the genus *Cutina* (Walker) Lepidoptera: Noctuidae. *Proceedings of the Entomological Society of Washington* 100(2): 331-352.

Little, Elbert L., Jr., 1971. *Atlas of United States trees. vol. 1. Conifers and important hardwoods*. U.S. Department of Agriculture., Miscellaneous Publication 1146. Washington, DC. Map 84E.

Leckie, Seabrooke and David Beadle, 2018. *Peterson Field Guide to Moths of Southeastern North America.*

https://www.inaturalist.org/taxa/174079-Cutina

https://bugguide.net/node/view/161105

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Colorado Bend State Park, Texas (November 6, 2020) (Photo by Richard Lombardini)

HOST PLANTS AND LIFE CYCLE DOCUMENTED FOR *CROCIDOSEMA UNICA*

BY

ROYAL TYLER

This paper is a follow-up to Tyler and Sabourin (2019) describing the occurrence of this species in NW Louisiana.

Since that time, several larvae have been collected and reared on 2 different host plants and additional details of the life cycle are now understood.

Location

The study site is The Royal Hills farm, a 153 acre tree farm located in Caddo Parish, Louisiana. This is the NW corner of the state, not far south of Texarkana, AR. It is approximately 120 acres of upland shortleaf pine (*Pinus echinata*) and loblolly pine (*Pinus taeda*) ecosystems, with about 25 acres of creek bottoms of hardwoods and cypress, and 2-3 miles of pipelines and woods roads providing good access and openings. Soils are predominately deep, sandy to sandy loam soils.

Materials and Methods

Adult specimens were collected and photographed near UV and standard porch lights, and also in 2020 with Mercury vapor lights. All specimens were recorded on iNaturalist with GPS location data, digital photographs, and time and date stamps taken from photographs. Larvae were collected on the host plant and similarly recorded.

Current records for *Crocidosema unica* are confined to the southeastern United States and Puerto Rico (MPG, 2020) within the known distribution of its previously recorded food plant, *Centrosema virginiana* (Heinrich, 1923).

Taxonomy/Identification

Crocidosema unica (Spotted Butterfly Pea Moth) was described by Heinrich (1923) as *Epinotia unica*. The species is currently placed in *Crocidosema* (Brown, 2005). Tortricidae, Olethreutinae, Eucosmini, Genus *Crocidosema* currently includes 33 species of moths in North America according to Gilligan et al (2018).

Adult Description

Adult specimens in good condition can be identified from other Eucosmini by the black spots on the thorax and base of the forewing. The species is unique among its congeners in lacking male secondary sexual characters such as a costal fold on forewing or a sexual scale patch on the base of the hindwing. (Tyler and Sabourin 2019)

Figs. 1 - 2. *Crocidosema unica*, adult male, August 31, 2017. Photos by Royal Tyler. Royal Hills farm, Caddo Parish, LA.

Fig. 1.

Fig. 2.

Heinrich (1923) gives distinguishing characters as two distinct black dots on the upper side of the second joint of the labial palpi and the unique male genitalia. The adult head and forewing ground color tend to be varying degrees of brownish white. The forewing length is 4.5 to 6.5mm, the markings are either dark brown or fuscous in color. Typical of *Crocidosema* the moths have a basal patch to some degree, a dark pre-tornal patch along hind margin, and a brow line along the upper and distal edges of the forewing ocelli.

The genitalia were previously illustrated by Tyler and Sabourin (2019).

Description larvae

Larvae are a rather nondescript yellow color (see Figures 3 through 6, Figure 11). Larvae were recorded between 5mm (early) and 10mm (late) in length without much change in appearance as they grew. The average was about a month from the time larvae were collected to the time of adult emergence, with an estimated time of 2 weeks from pupal stage to adult emergence.

Figs. 3 - 6. Larval photos of *Crocidosema unica* taken on Royal Hills farm, Caddo Parish, LA, by Royal Tyler

Fig. 3. June 7, 2020 on *Clitoria mariana*

Fig. 4. June 17, 2020 on *Clitoria mariana* (same larva as Fig. 3 10 days older)

Fig. 5. July 31, 2020 on *Centrosema virginiana*, larva about 2 weeks before pupation

Fig. 6. June 17, 2020 prepupal larva

Host plants and feeding patterns

Larvae were collected in the field via searching for leaftiers and other evidence of larval activity on the site. For the first year (2019) an effort was made to focus on searching *Centrosema virginiana* for larvae, primarily early in summer, hoping to find *Crocidosema unica*. Not many other species of plants were searched for larvae, and no success was had. In 2020, a wider search for Tortricid larvae was conducted across the farm, and while doing so the first *Crocidosema* larvae were found on a new species, *Clitoria mariana*. Several searches were conducted in early summer and all the specimens collected in June came from *Clitoria mariana*. It was in July that additional searches yielded larvae from *Centrosema virginiana* also. It's worth noting that

during this July collecting several of the *Clitoria mariana* shelters ended up being *Triclonella pergandeella* larvae, also known as bush-clover *Triclonella*. There was no visible differences in the shelters and it was necessary to open them to separate the larvae by species.

Figs. 7 - 8. Leaf shelter in *Clitoria mariana*, taken June 7, 2020, Royal Hills farm, Caddo Parish, LA, by Royal Tyler.

Fig. 7.

Fig. 8.

Typically larvae were found inside folded leaves, or two leaves attached with silk. The larvae fed in between these leaves (Figures 7 through 11). Larvae were primarily surface feeders, but as they matured became more like skeletonizers. They were observed inside the shelter for the entire larval and pupal phase.

Figs. 9 - 11. *Clitoria mariana* leaf shelters on July 5, 2020. 1 week before pupation, and three weeks before emergence of adult *Crocidosema unica* male. Photos by Royal Tyler, Royal Hills farm, Caddo Parish, LA.

Fig. 9.

Fig. 10.

Fig. 11.

Occurrences

Crocidosema unica appears to be bi-voltine. There is an early flight April/May time frame, and then another July thru early September. Larvae were found on the study site from early June through early September. Larvae have been seen through August, yet no adults seen past early September.

References

Brown, J. W., 2005. *Tortricidae (Lepidoptera) - In*: World Catalogue of Insects 5: 1-741.
Gilligan, T. M., J. Baixeras, & J. W. Brown, 2018. T@RTS: Online World Catalogue of the Tortricidae (Ver. 4.0). http://www.tortricid.net/catalogue.asp.
Heinrich, C., 1923. Bulletin USNM 123: 221, pl. 54, fig 376.
MPG website, http://mothphotographersgroup.msstate.edu/species.php?hodges=3330. Recorded 9-30-2020.
Tyler, RM and Sabourin, M., 2019. *Southern Lepidopterists' News* 41(1) pp 1-4.

I would like to acknowledge the assistance by Michael Sabourin with dissection of adults and continued discussions of this and other Tortricid species.

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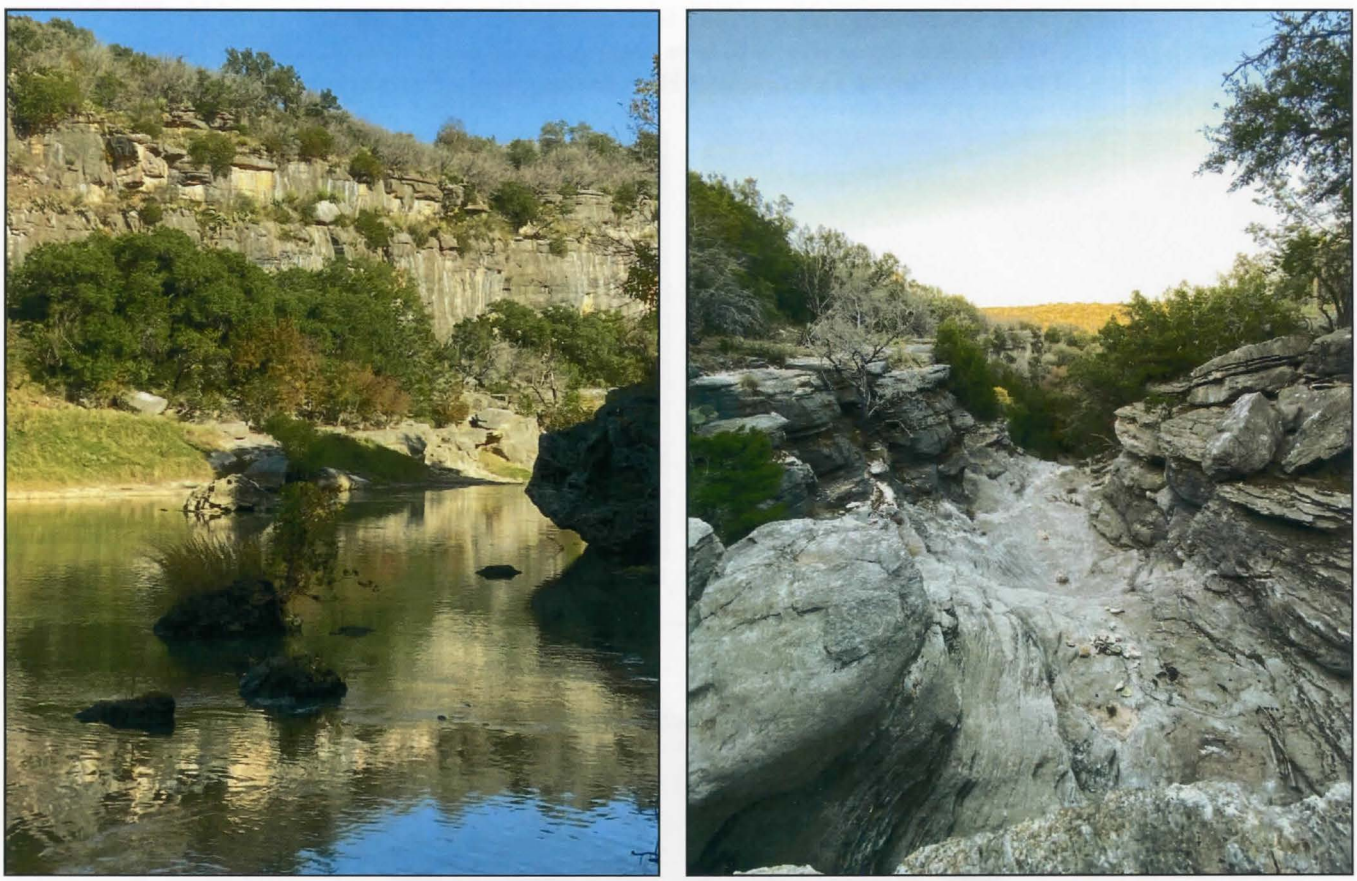


Colorado Bend State Park, Texas (November 6, 2020)(Photo by Richard Lombardini)

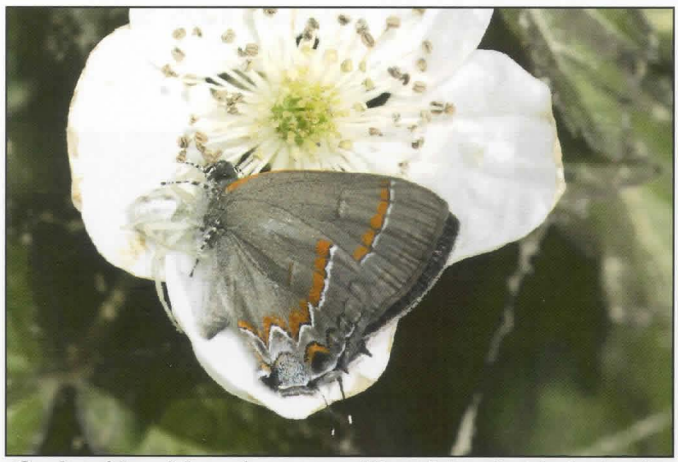
CHOMP, THE DAILY PERILS OF BUTTERFLIES AND MOTHS

A PHOTO ESSAY

BY

BRYAN E. REYNOLDS

Butterflies and moths face myriad hazards from other hungry critters that want to make a meal out of them. No life stage is immune. Eggs, larvae and pupae are ravaged by parasitic wasps and flies. Flocks of birds strip countless caterpillars from the vegetation. Ambush bugs, assassin bugs and crab spiders lurk inside flowers. Aerial assassins, such as dragonflies and robber flies, patrol relentlessly looking for prey. Or, how about a spider's sticky silken snare? Around each corner waits a danger to dodge. For 40 years, I've been observing and photographing butterflies and moths, and I've acquired quite a large selection of them getting eaten by a predator. This series is not for the faint of heart, but predation is a natural process and is part of a healthy and balanced ecosystem. Since I have so many of these types of images, this photo essay will be in two parts. I hope you enjoy this series.



Crab spider, *Mecaphesa* sp., with red-banded hairstreak, *Calycopis cecrops*, on blackberry, *Rubus* sp., Beech Creek, Ouachita National Forest, Le Flore County, Oklahoma, 5 May 2013

Caterpillar hunter, *Calosoma* sp., capturing Vashti sphinx, *Sphinx vashti*, Kessler Atmospheric and Ecological Field Station, McClain County, Oklahoma, 17 May 2013

Crab spider, *Mecaphesa* sp., with hackberry emperor, *Asterocampa celtis*, Pontotoc Ridge Preserve, Pontotoc County, Oklahoma, 8 June 2013

Crab spider, Family Thomisidae, with pearl crescent, *Phyciodes tharos*, on black-eyed Susan, *Rudbeckia hirta*, Oka'Yanahli Preserve, Johnston County, Oklahoma, 5 July 2013

Crab spider, *Mecaphesa* sp., with sachem, *Atalopedes campestris*, on buttonbush, *Cephalanthus occidentalis*, Oka'Yanahli Preserve, Johnston County, Oklahoma, 5 July 2013

Jumping spider, *Phidippus clarus*, capturing sachem, *Atalopedes campestris*, male, Oka'Yanahli Preserve, Johnston County, Oklahoma, 6 July 2013

Jumping spider, *Phidippus clarus*, with sachem, *Atalopedes campestris*, male, Oka'Yanahli Preserve, Johnston County, Oklahoma, 6 July 2013

Jumping spider, *Phidippus clarus*, with sachem, *Atalopedes campestris*, male, Oka'Yanahli Preserve, Johnston County, Oklahoma, 6 July 2013

Crab spider, *Mecaphesa* sp., with painted crescent, *Phyciodes picta*, on tanseyleaf tansyaster, *Machaeranthera tanacetifolia*, Black Mesa State Park, Cimarron County, Oklahoma, 22 July 2013

Jagged ambush bug, *Phymata* sp., with sleepy orange, *Eurema nicippe*, on Baldwin's ironweed, *Vernonia baldwinii*, Pontotoc Ridge Preserve, Pontotoc County, Oklahoma, 13 July 2013

Carolina mantis, *Stagmomantis carolina,* consuming snowberry cleawing, *Hemaris diffinis,* on thistle, *Cirsium* sp., Pontotoc Ridge Preserve, Pontotoc County, Oklahoma, 24 August 2013

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Cotton stainers, *Dysdercus* sp., two pairs mating and feeding on American snout, *Libytheana carinenta*, on mist flower, *Conoclinium* sp., Frontera Audubon, Hidalgo County, Texas, 4 November 2013

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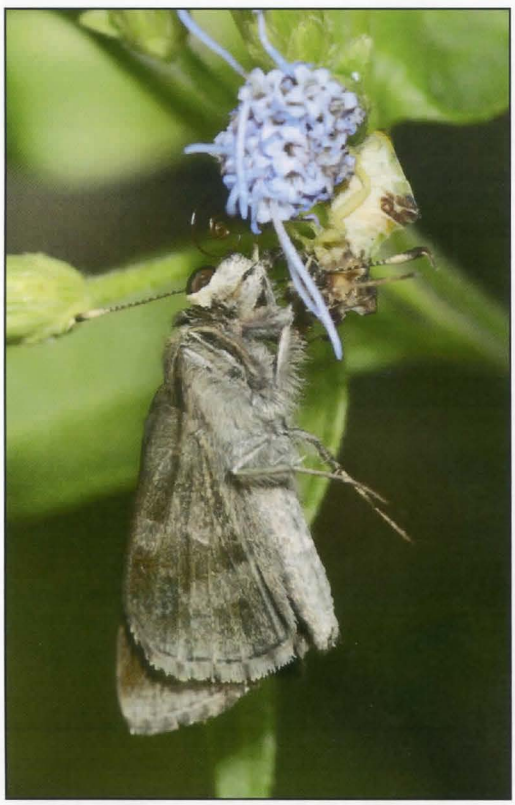

Jagged ambush bug, *Phymata* sp., with fawn-spotted skipper, *Cymaenes trebius*, male on mist flower, *Conoclinium* sp., Resaca De La Palma State Park, Cameron County, Texas, 8 November 2013

←

Crab spider, Family Thomisidae, with little yellow, *Pyrisitia lisa*, on mist flower, *Conoclinium* sp., Frontera Audubon, Hidalgo County, Texas, 1 November 2014

→

Jagged ambush bug, *Phymata* sp., feeding on gulf fritillary, *Agraulis vanillae*, on thistle, *Cirsium* sp., Pontotoc Ridge Preserve, Pontotoc County, Oklahoma, 25 August 2013

Green lynx spider, *Peucetia viridans*, female, with zabulon skipper, *Poanes zabulon*, male on thistle, *Cirsium* sp., Pontotoc Ridge Preserve, Pontotoc County, Oklahoma, 24 August 2013

Crab spider, Family Thomisidae, with tropical checkered-skipper, *Pyrgus oileus*, male, Frontera Audubon, Hidalgo County, Texas, 5 November 2013

Jagged ambush bug, *Phymata* sp., with clouded skipper, *Lerema accius*, on mist flower, *Conoclinium* sp., Estero Llano Grande State Park, Hidalgo County, Texas, 6 November 2013

Jagged ambush bug, *Phymata* sp., with red-bordered metalmark, *Caria ino*, on mist flower, *Conoclinium* sp., Estero Llano Grande State Park, Hidalgo County, Texas, 6 November 2013

Crab spider, Family Thomisidae, with vesta crescent, *Phyciodes graphica*, on mist flower, *Conoclinium* sp., Estero Llano Grande State Park, Hidalgo County, Texas, 6 November 2013

Jagged ambush bug, *Phymata* sp., with obscure skipper, *Panoquina panoquinoides*, female on camphor daisy, *Rayjacksonia phyllocephala*, near smiley ball, Loma Alta, Cameron County, Texas, 8 November 2013

Crab spider, Family Thomisidae with clouded skipper, *Lerema accius*, on Texas sage, *Leucophyllum frutescens*, Resaca De La Palma State Park, Cameron County, Texas, 31 October 2014

Crab spider, *Mecaphesa* sp., with crimson patch, *Chlosyne janais*, Frontera Audubon, Hidalgo County, Texas, 1 November 2014

Jumping spider, *Platycryptus undatus*, male with moth, Order Lepidoptera, one mile south of Lexington Wildlife Management Area, Cleveland County, Oklahoma, 2 September 2015

Plains clubtail, *Gomphus externus*, with orange sulphur, *Colias eurytheme*, Little Yellowstone Park, Barnes County, North Dakota, 12 July 2003

Jagged ambush bug, *Phymata* sp., with little yellow, *Pyrisitia lisa*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 22 October 2005

Predatory stink bug, Subfamily Asopinae, with Henry's elfin, *Callophrys henrici*, larva on redbud, *Cercis canadensis*, one mile south of Lexington Wildlife Management Area, Cleveland County, Oklahoma, 8 May 2006

Robber fly, *Efferia* sp., female with variegated fritillary, *Euptoieta claudia*, Wichita Mountains National Wildlife Refuge, Comanche County, Oklahoma, 22 May 2007

Jagged ambush bug, *Phymata* sp., with sachem, *Atalopedes campestris*, male on thistle, *Cirsium* sp., Lexington Wildlife Management Area, Cleveland County, Oklahoma, 12 August 2008

Banded argiope, *Argiope trifasciata*, with spurge hawkmoth, *Hyles euphorbiae*, larva, Denbigh Experimental Forest, McHenry County, North Dakota, 14 September 2002

Banded argiope, *Argiope trifasciata*, with lupine/acmon blue, *Plebejus lupini/acmon*, Little Missouri National Grassland, Summit Campground, McKenzie County, North Dakota, 31 August 2002

Jumping spider, Family Salticidae, with captured garita skipperling, *Oarisma garita*, on prairie lily, *Lilium philadelphicum*, Killdeer Mountains Wildlife Management Area, Dunn County, North Dakota, 27 June 2003

Whitebanded crab spider, *Misumenoides formosipes*, with common buckeye, *Junonia coenia*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 23 September 2005

Bold jumping spider, *Phidippus audax*, with pearl crescent, *Phyciodes tharos*, Lexington Wildlife Management Area, Cleveland County, Oklahoma, 27 October 2005

Carolina mantis, *Stagmomantis carolina*, consuming snowberry cleawing, Hemaris *diffinis*, on thistle, *Cirsium* sp., Pontotoc Ridge Preserve, Pontotoc County, Oklahoma, 25 August 2013 ←

Whitebanded crab spider, *Misumenoides formosipes*, with cloudless sulphur, *Phoebis sennae*, on thistle, *Cirsium* sp., Lexington Wildlife Management Area, Cleveland County, Oklahoma, 19 September 2005 →

(Bryan E. Reynolds; 18201 Sun Valley Lane, Lexington, OK 73051;
E-mail: nature_photo_man@hotmail.com)

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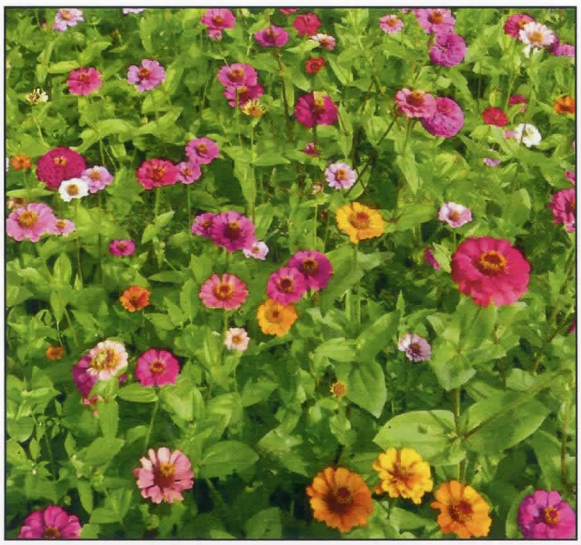
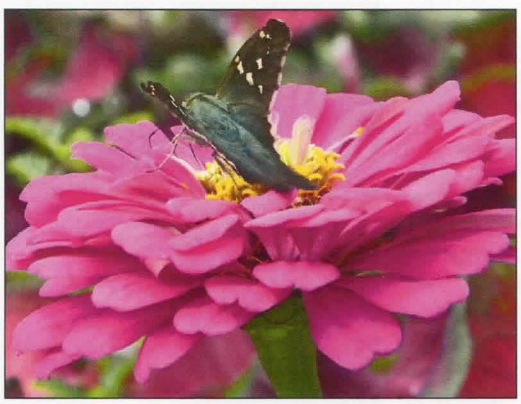
A PHOTO ESSAY

BY
GARY NOEL ROSS



The common long-stem zinnia (*Zinnia elegans* x *Z. augustifolia*), a nineteenth century import from Mexico, offers most butterflies (and other pollinators) a sumptuous feast for gardeners throughout much of the growing seasons throughout most of North America. All photos taken in Baton Rouge, LA, between 2019 and 2020.



FINGERPRINTING MOTHS IN THE FIELD: AN EXAMPLE WITH THE TEXAS ENDEMIC "CANYONLANDS QUAKER", *TRICHOLITA BARANCA* (NOCTUIDAE)

BY

CHUCK SEXTON

The Canyonlands Quaker, *Tricholita baranca*, is a poorly known Texas Hill Country endemic Noctuid (Fig. 1).

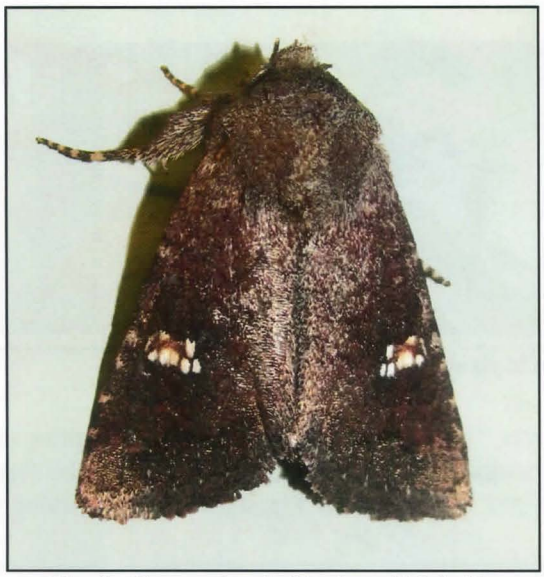


Fig. 1. Canyonlands Quaker, *Tricholita baranca*. Ph. 12 October 2012, Austin, Travis Co., TX, by the author.

It was originally described over a century ago from Kerrville, Kerr County (Barnes 1905). To date, other records are known only from three other counties, Travis, Williamson, and Edwards, thus circumscribing the species' range in the Balcones Canyonlands ecoregion of central Texas (iNaturalist, Moth Photographers' Group, BugGuide; Griffith 2010). Nothing is known of its life history or larval food plant(s). In the Fall of 2012, several examples of this species showed up at my porch lights in Austin, Travis Co., Texas, and I dutifully documented them and uploaded some of the images to iNaturalist.org and BugGuide.net. The patterning on this Noctuid is fairly simple, consisting of a series of white dots outlining the reniform spot on an otherwise relatively uniform purple-brown forewing with faint dark crosslines. I recognized some slight differences from one individual to the next and began to wonder how many different individuals of this uncommon species were actually showing up. I realized that the series of small white dots in the reniform spots, each made up of several white scales on the dark background, varied enough that they could be used as diagnostic "fingerprints" to recognize individual moths—no two moths were exactly alike (Figs. 2, 3). This allowed me not only to enumerate the number of individuals present but also to determine if any individual moths were repeat visitors on multiple nights.

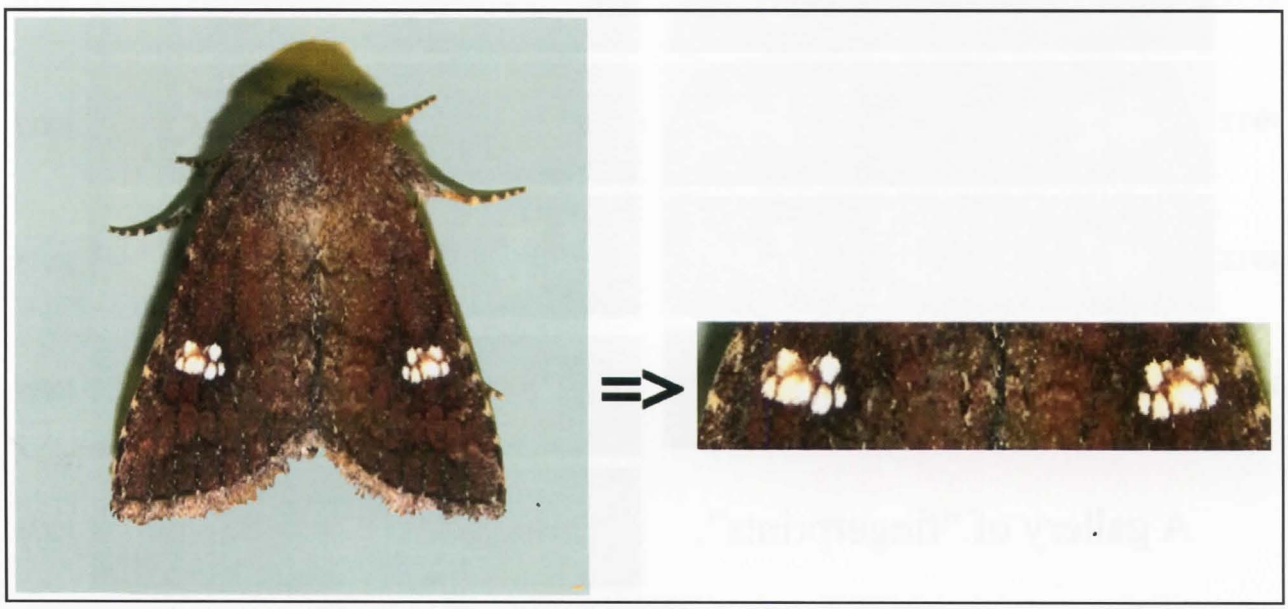


Fig. 2. Cropping a field image of the Canyonlands Quaker to create a "fingerprint". Ph. 15 October 2012, Austin, Travis Co., TX, by the author.

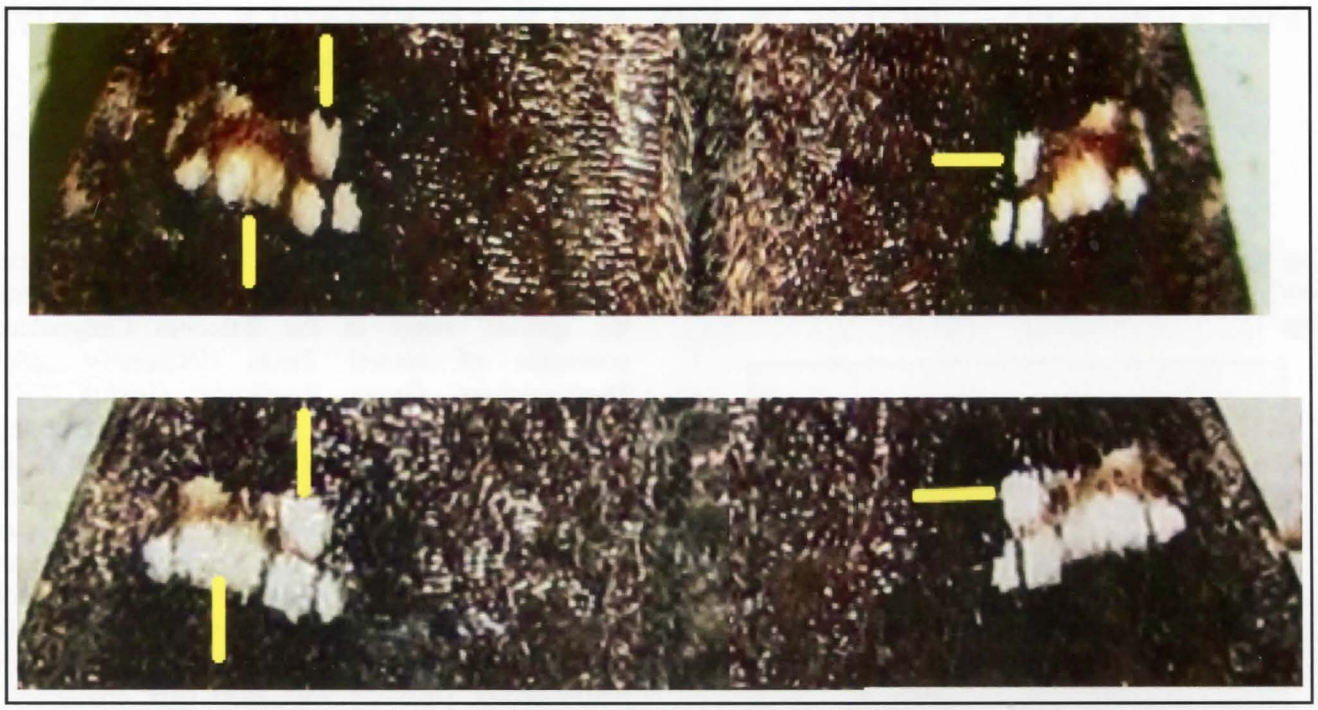


Fig. 3. Comparing details of the fingerprints of two individual Canyonlands Quakers.

I photographed the species on eight evenings over the span of 11 days, October 11 to 21, 2012. Only one or two individuals were present on any given evening. However, fingerprinting allowed me to recognize that I had documented 11 different individual moths (ten of which are illustrated in Fig. 4). Each individual was

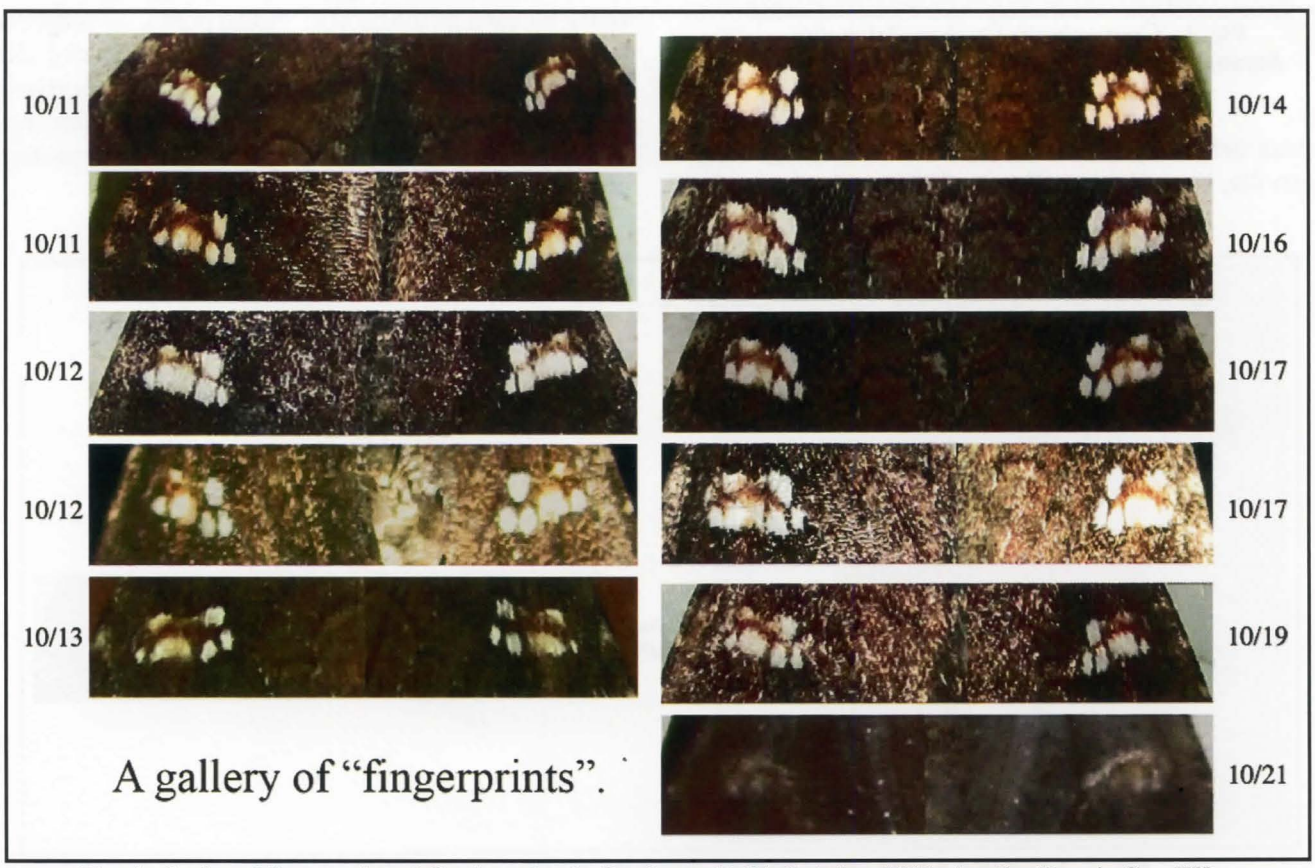


Fig. 4. Series of fingerprinted Canhyonlands Quakers, 11-21 October 2012, Austin, Travis Co., TX. Ten of 11 individuals are included here. Note the identical pattern on an individual ph. 16-17 October. All photos by the author.

distinctive in its reniform fingerprint. I recognized only one individual which was present on two nights, October 16-17 (Fig. 4). That repeat individual was photographed twice in the evening almost exactly 24 hours apart but was not present during the intervening day. Of course, I can't say where the moth spent that day; it may have been just a short distance away. All but the last individual photographed (October 21) appeared to be relatively fresh and unworn. Scale wear seemed not to be an issue creating the variation in pattern among the documented individuals. Even the latter heavily worn individual had a distinctive enough fingerprint that I felt confident it was not represented in the collection of previous images (Fig. 4, last individual).

Combined with a distinctive, contrasting, and relatively finite pattern element which varies from individual to individual, the Canyonlands Quaker offers the following characteristics which lend it to the present type of investigation: (a) the species occurs in modest numbers, not overly rare nor abundant, (b) the species perches with wings relatively flat to the observer/photographer, and (c) individual moths are quite sedentary at the porch light. While many moth species have recognizable individual variability, it is unlikely that the present study could be successfully repeated on moth species (1) which have minor, subtle, or obscure individual variation in pattern, (2) occur as abundant populations or mass emergences, (3) in which individuals are particularly active at concentrating points like a moth light or porch light. In theory, *in situ* photographs need to be sufficiently detailed to discriminate pattern elements down to or nearly to the level of individual scales. Micromoths, by their size alone, would seem to make difficult subjects for the present type of investigation.

Certain logistical considerations also facilitate a study like the present one. In particular, a porch light (or black light or other type of non-lethal trap) constitutes a passive concentrating point in a landscape for examining a sample of moths. The present technique probably could not be used effectively in a true "field" setting. Moth movements by day or night are probably too active and/or random to provide an efficient sample size. Moreover, any active collecting technique adds the element of overt interference with the moth's behavior and possible damage or injury to the insect, any of which would potentially bias results.

With the exception of the major efforts in mark-recapture studies of the migratory Monarch butterfly (Urquhart 1941, Monarch Watch 2020), searches on Google Scholar produced no truly relevant literature on the recognition or discrimination of individual insects in the field. Walker & Wineriter (1981) described marking techniques for recognizing individual insects, including Lepidoptera, and reviewed earlier efforts of that nature. However, I find no discussion of recognition techniques that are non-invasive and field-applicable.

Much remains to be learned about the biology of the Canyonlands Quaker. It remains to be seen if the present fingerprinting protocol could be applied to determine local population sizes or other population parameters necessary for assessing its conservation status, for instance. With increasing sample size, it may give at least nominal information on the life span of individual moths (with some simplifying assumptions on dispersal, etc.).

Acknowledgements

A brief overview of this research was originally presented at the Austin Butterfly Forum in November 2012.

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OBSERVATIONS IN SANDHILL COMMUNITIES IN FLORIDA

BY
JEFF SLOTTEN

I have been actively collecting, photographing and observing moths in sandhill communities throughout the southeastern United States for many years. Colleagues including Tom Neal and Rick Gillmore were fundamental in introducing me to these desert like communities when I first moved to Florida in 1977 from Chicago. Unless the habitats are in bloom in the fall of the year, these areas are often passed up by lepidopterists since they look quite barren during other times of the year. I initially became interested in these areas when I was told by Tom Neal that *Hesperia attalus* and *Hesperia meskei* were found there. Actually Tom decided to tease me and would not tell me where these butterflies were found and wanted me to sweat a little bit by looking at the wrong habitats. After complaining to him that I was unable to locate these butterflies, he told me I was looking in the wrong places. These butterflies are not found in swamps, forests or even forest edges but in areas where the larvae feed on native grasses including bluestem (*Andropogon*) and switchgrass (*Panicum*). He finally steered me in the right direction. After finding these butterflies I became interested in these interesting sandhill habitats that have a variety of interesting moths, beetles and other species of butterflies. Plants include Pines (*Pinus* spp.), Oaks including Bluejack (*Quercus incana*), Turkey (*Quercus laevis*), Sand Live (*Quercus geminata*) and Myrtle (*Quercus myrtifolia*), Persimmon (*Diospyros virginiana*), Gopher Apple (*Geobalanus oblongifolius*), and many composites including *Chrysopsis, Pittyopsis, Liatris, Carphephorus* and *Balduina.*

During the months of September and October, sandhill habitats become ablaze in color when lots of composites are in bloom. The yellows and purples are outstanding and this display can be seen when one drives by these normally drab looking communities. One moth that is particularly showy is *Apantesis placentia* (J. E. Smith). This moth belongs to the family Erebidae, subfamily Arctiinae. It was described by James Edward Smith in 1797. It is found in the southeastern Unites States from New Jersey in the north to Florida in the south. Larvae can be found rather commonly during the daytime resting and feeding on *Liatris* and *Carphephorus* blooms. The larvae are very visible in the later instars since they are rather large and dark. When disturbed, they often fall from the plant and either curl up or run quickly on the sandy substrate. They are sometimes hard to pick up since they squirm around and will escape from one's hand and fall to the ground. I have reared many larvae found in this manner and have not noticed any parasitism. Are they resistant because of the numerous hairs all over their surfaces or is there some kind of other protection they derive? Photos of the last instar larva (Fig. 1) on *Liatris* and the male and female adult resting on sand (Fig. 2) are presented. Adults are sexually dimorphic. The females are particularly beautiful with dark forewings and small white spots contrasting with the red hindwings.

Last instar larva of *Apantesis placentia* on *Liatris*

Female (left) and male (right) *Apantesis placentia*

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

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NOTES ON LIFE HISTORY AND FOOD PLANTS OF *TRICLONELLA PERGANDEELLA* BUSCK

BY

ROYAL TYLER

During the summer of 2020, while collecting and rearing larva found in leaf shelters and leaf tiers, several larvae of *Triclonella pergandeella*, Bush clover *Triclonella*, were collected on two different host plants in NW Louisiana.

Photo 1. *Triclonella pergandeella* Busck larvae taken 8-9-20. Caddo Parish, LA on *Clitoria mariana*.

Location

The study site is The Royal Hills farm, a 153 acre tree farm located in Caddo Parish, Louisiana. This is the NW corner of the state, not far south of Texarkana, AR. It is approximately 120 acres of upland shortleaf pine *(Pinus echinata)* and loblolly pine (*Pinus taeda*) ecosystems, with about 25 acres of creek bottoms of hardwoods and cypress, and 2-3 miles of pipelines and woods roads providing good access and openings. Soils are predominately deep, sandy to sandy loam soils.

Materials and Methods

Lepidoptera larvae surveys were conducted in 2020, with a focus on collecting leaf tiers and leaf folders. While the primary goal was Tortricidae, *Triclonella pergandeella* was discovered with similar feeding habits and host plants to Tortricids that were being studied.

Several individuals were collected and reared to maturity. Four individuals are presented here in detail, a male and a female raised on each of two hosts found on the site.

Taxonomy/Identification

Gelechioidea, Cosmopterigidae (cosmet moths), genus *Triclonella* includes at least five species known in North America north of Mexico (Hodges, 1978). *T. bicoloripennis* and *T. pergandeella* are the only two recorded thus far on the study site. *T. pergandeella* was first described by Busck in 1901. Current records for *Triclonella pergandeella* are confined to the southern United States (BugGuide, MPG, 2020), almost exclusively to the Southeast. Leckie and Beadle (2018) describe the range as being from NC south to FL, and west to OK and TX. There were previously a couple of individuals reported from Arizona, but it was investigated and confirmed that those were most likely *T. xuthocelis* and have been removed from MPG website. *Triclonella xuthocellis* Hodges occurs in Arizona and south into Mexico.

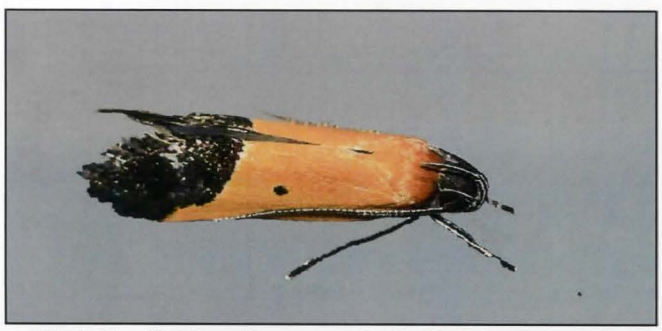

Photo 2. *Triclonella pergandeella* Busck adult male, photo taken 8-22-20. Caddo Parish, LA on *Desmodium*. Forewing length 7.0 mm

Photo 3. *Triclonella pergandeella* Busck adult female taken 8-19-20. Caddo Parish, LA on Desmodium. Forewing length 8.0 mm

Photo 4. *Triclonella pergandeella* Busck adult female, photo taken 8-19-20. Caddo Parish, LA on *Desmodium*. Forewing length 8.0 mm

Adult Description

Antennae are black and white, described by Busck (1901) as being purplish-black with two silvery white longitudinal lines from base to tip. In digital photographs taken by the author, these longitudinal lines appear to be more broken in appearance, not solid white lines (see photo 3 for good example). Across all specimens, the antennae were consistently about as long as the break between the yellow portion and the black portion of the forewing (the terminal line) (see photo 2).

Labial palpi are described by Busck as "black, second joint with four longitudinal thin, silvery white lines, terminal with one longitudinal white line in front". These longitudinal white lines in front show up well in digital photographs, being much more visible than the four smaller lines which are fairly well hidden from view unless studied closely.

The head is a lighter shade of brown, with a white line above the eye that is clearly visible. The head color seems to lighten with age, and appear a lighter color than much of the brown on the adults. Thorax is brown similar to that of the forewings, and the abdomen is also a dark brownish-black color.

The fore legs show up consistently in digital analysis as being black with longitudinal white lines that extend through the tibia. The tarsi are black with two white dots spaced apart, and one of them being on the very tip. The mid legs appear to be black with a short white line high on the tibia and a few white spots, and hind legs also black with silvery-white spots.

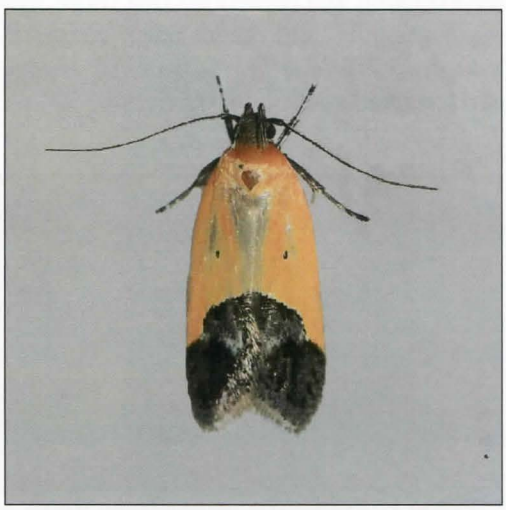

Photo 5. *Triclonella pergandeella* Busck adult male, photo taken 8-19-20. Caddo Parish, LA on *Clitoria mariana*. Forewing length 6.0 mm.

Photo 6. *Triclonella pergandeella* Busck adult female, photo taken 9-8-20. Caddo Parish, LA on *Clitoria mariana*. Forewing length 6.0 mm.

Triclonella pergandeella has a TL of 5-8mm. The basal portion of the forewing is creamy yellow about two thirds to three quarters of the length with a small black, white-edged cell in the middle. The forewing has an oblique white terminal line, followed by the apical portion of the FW which is brownish-black. In this black portion of the wing there is a streak of scattered white scales segregating into a whitish spot at the tornus. The cilia were described by Busck (1901) as "basal part of cilia black sprinkled with white scales, tips of cilia mouse gray". These gray tips were a consistent feature.

Triclonella pergandeella and *Triclonella xuthocellis* can only be separated via careful study of genitalia. *T. xuthocellis* is estimated to be 6.3mm to 7.7mm in length, compared to previously reported size range of *T. pergandeella* of 5.2mm to 6mm (Hodges 1978:54). Busck (1901) had previously described the "alar expanse 14mm". I now conclude this to not be an accurate method of separating the two species. *Triclonella xuthocelis* also is supposed to have orange scales present in the black distal portions of the forewing, lacking in *T. pergandeella* (Hodges 1978). It is uncertain whether this is always present, and doubtful that the lack of the presence of these scales is sufficient to separate the two species.

As shown in photos 5 and 6, *T. pergandeella* can be as large as 8mm TL, larger than the previous findings. There is quite a range in forewing length, quite possibly due to the quality of the host plant fed upon. In this example, both the male and female *T. pergandeella* were 6 mm in length that were reared on *Clitoria mariana* (photos 2 through 4). The individuals reared on *Desmodium* were 8mm for the male, and 7mm for the female, thus establishing them as being larger than previously thought.

Description of genitalia

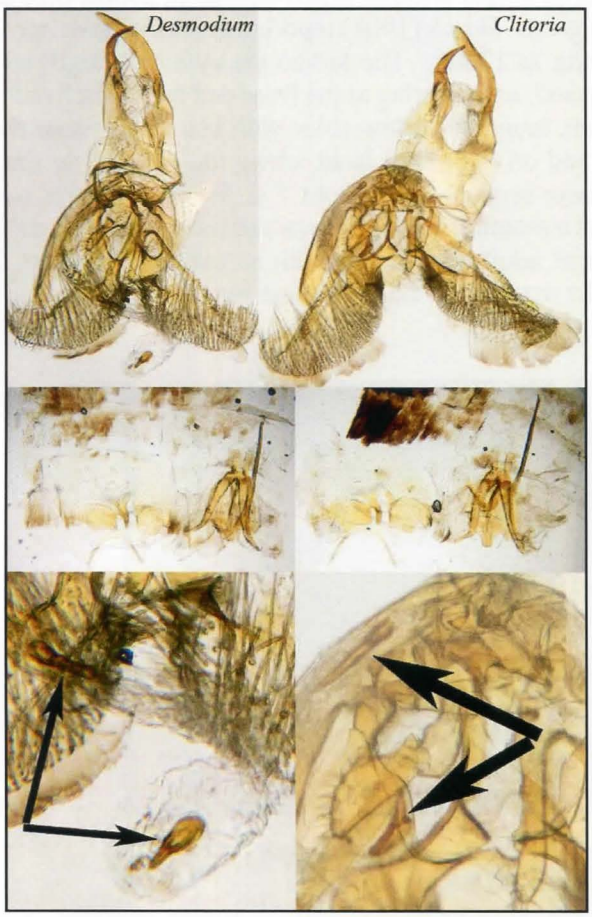

Fig. 1. Male genitalia of *Triclonella pergandeella*, Caddo Parish, Louisiana. Photos 1–3 on the left, moth reared from *Desmodium* sp.; 4–6 on the right, moth reared from *Clitoria mariana*. 1 and 4, overview of genitalia; 2 and 5, detail of cornuti (at arrows); in both preparations, the vesica is everted so that the apical cornutus is external to the phallus; 3 and 6, modifications of eighth and ninth abdominal sternites (S) and tergites (T).

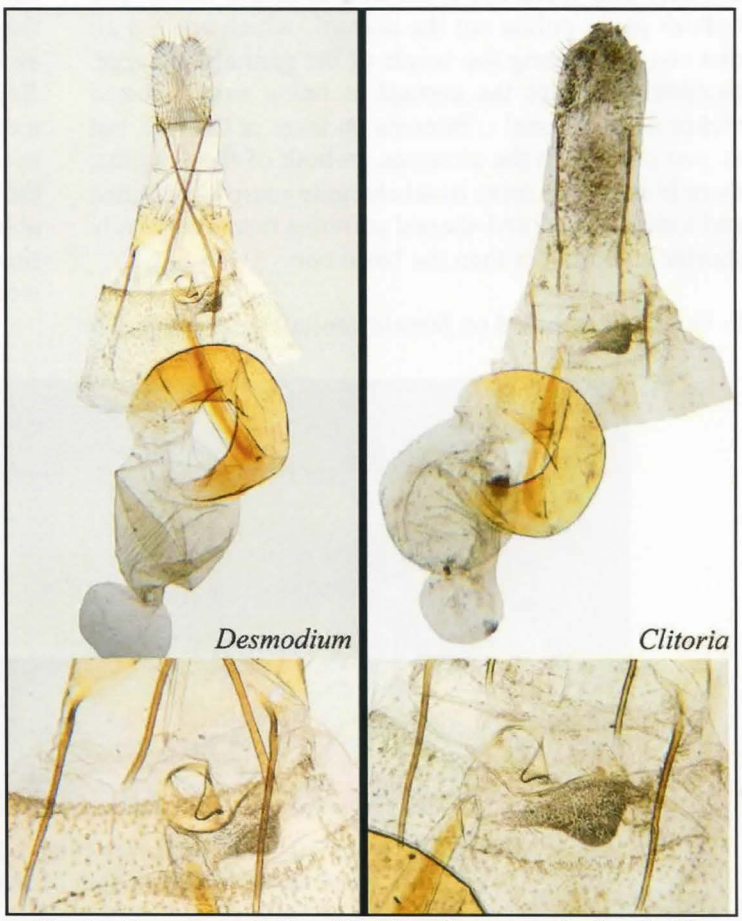

Fig. 2. Female genitalia of *Triclonella pergandeella*, Caddo Parish, Louisiana. photos on left, moth reared from *Desmodium* sp.; photos on the right, moth reared from *Clitoria mariana*. Top left and top right, overview of genitalia; bottom left and bottom right, detail of ostium bursa.

Figures 1 and 2 show some genitalia images of *Triclonella pergandeella* moths that fed on *Desmodium* and *Clitoria mariana*. Although these adults were quite different in size, this comparison will show they are indeed the same species.

In the male genitalia, the path to *pergandeella* in Hodges' (1962) key is (Couplet 1), one or more cornuti present in phallus (versus cornuti absent in *determinatella* and *bicoloripennis*); (Couplet 2), two or more cornuti present (versus only one cornutus in *antidectis*); and (Couplet 3) two cornuti present (versus four or five cornuti in *xuthocelis*).

In this composite side-by-side images of both male and female genitalia of the two different host races, in all pairs of panels, the *Desmodium* feeder is on the left, the Clitoria feeder is on the right. The upper panel shows an overview of the genitalia, the middle panel shows the elaborate modification of the 8th sternite (on left) and tergite (on right); Hodges did not illustrate this, despite the fact that there are a lot of characters there. The bottom panel points out the cornuti, which are not all that obvious among the tangle of the genitalia at large. Hodges illustrates the cornuti as being subequal and makes no additional comments on them in the text, but as you can see in the closeups, in both of these moths, there is actually a more basal elongate-narrow cornutus, and a more apical awl-shaped cornutus that is relatively shorter and broader than the basal one.

In Hodges' key based on female genitalia, *pergandeella* is arrived at via (Couplet 1), ductus bursae sclerotized (versus unsclerotized in *determinatella*); and (Couplet 2), one side of ductus bursae more heavily sclerotized than the other [i.e., modified into the asymmetrical "cornucopia" formation] (versus ductus bursae "evenly" (i.e., symmetrically) sclerotized in *xuthocelis*).

In this side-by side image of female genitalia of moths from the two hosts (Fig. 2), the top panel presents an overview, and the bottom panel provides a detail of the ostium bursa (just to show that it is the same in the two moths).

So, on basis of male and female genitalia, it is seen that these moths from the two hosts are identical to each other, and that they agree perfectly with Hodges' diagnoses of *T. pergandeella*.

Description larvae

Larvae were recorded between 7mm (early) and 9mm (late) in length without much change in appearance as they grew. Busck (1901) reported his reared specimens as long as 12mm. The larvae are cylindrical, slightly flattened, and tapering at the front and rear. The head is a drab, orangish yellow color with black spots near the eye and on top of the head, along the edge of the first thoracic segment (see photo 7 & 8). The average was about a month from the time larvae were collected to the time of adult emergence, with an estimated time of 2 weeks from pupal stage to adult emergence.

Photos 7- 8. Photos taken by Royal Tyler 7-26-20. Larva 7-8mm in length, feeding on *Desmodium*., Caddo parish, LA.

The body is predominately black, with yellow spots described as follows: the anterior half of the first thoracic joint, with the posterior half being black with a large white spot on each side. The second and third thoracic segments (and the eighth and ninth segments counting the head as the first) have a continuous dorsal and two lateral spots that are silvery-white in color. The fifth, sixth and seventh segments are predominately black, with two small dorsal spots per segment sometimes present. This same pattern is repeated in the tenth and eleventh segments, with a base color of black and somewhat faded white spots sometimes present. The twelfth and thirteenth segments repeat the pattern of the second and third thoracic segments, but with the white color being very faded in appearance on all individuals collected. The final abdominal segment is mostly black.

Host plants and feeding patterns

During the growing season of 2020, larvae were collected in the field via searching for leaftiers, leaffolders, and other evidence of larval activity on the site. For approximately a month from the end of July through the end of August larvae were found and collected. The first several larvae were collected on *Desmodium* on July 26, 2020 (see photos 10-12). Then on August 9, 2020 several were found on a different host plant, Pigeonwings, *Clitoria mariana* (photo 9). Then on August 30, 2020 an additional larva was collected on *Desmodium*.

Host plants were previously described by Busck (1901) as being on *Desmodium,* and by Hodges (1978) by being found on *Lespedeza* and *Clitoria*.

Typically larvae were found inside folded leaves, or 2-3 leaves attached with silk (see photo 9). The larvae fed in between these leaves. Larvae were primarily surface feeders, but as they matured became more like skeletonizers. They were observed inside the shelter for the entire larval and pupal phase. In one case two larvae and then two pupae were found in the same leaf shelter and both developed into adults, one week apart.

Photo 9. Taken 8-9-20, *Clitoria mariana* shelter harboring *Triclonella pergandeella* larva.

Photo 10. Taken 8-8-20, two *T. pergandeella* pupae together in one shelter on *Desmodium*. Caddo parish, LA. photo by Royal Tyler. 5mm length

Photo 11. Taken 8-13-20. Same two pupae

Photo 12. Taken 8-18-20. Maturing pupae. Female emerged 8-19-20 (FW 7mm) and male emerged 8-22-20 (FW 8mm)

Occurrences

Triclonella pergandeella appears to be overlapping bi-voltine or trivoltine. There is an early flight April/May timeframe presumably from individuals that overwinter as adults, then another late season group of adults. Larvae were found on the study site from July 26 through August 30 and it is not yet clear if this is one extended generation or multiple generations. Adults have only been recorded twice at a light (although daily monitoring has taken place all season long in 2020) and this was on April 22, 2014 and September 5, 2017. The only adults seen in 2020 were reared specimens.

Busck (1901) reported two or three overlapping generations in Washington DC area, with oviposition taking place late in June, late in August, and possibly again late in September. He stated this species

overwinters as an imago, and that the imagos were very "retired in their habits" and did not come to lights.

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Special Thanks to Terry Harrison for the dissections and descriptions of the genitalia.

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Colorado Bend State Park, November 6, 2020 (Photo by Richard Lombardini)

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PARAPAMEA BUFFALOENSIS (GROTE, 1877) (LEPIDOPTERA: NOCTUIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR. AND CHARLOTTE DOZAR BROU

Fig. 1. ***Parapamea buffaloensis*:** (capture dates) **males**. 1. June 8-1993, 2. August 25-2007, 3. September 25-1984, 4. August 29-2016, 5. August 28-2018, **females.** 6. October 9-1999, 7. October 6-1995, 8. November 3-1981, 9. July 23-2007, 10. July 23-2011, 11. September 12-1995, 12. November 3-1993. (*All captured near Abita Springs, St. Tammany Parish, Louisiana, except #8 captured at Edgard, St. John the Baptist Parish, Louisiana*).

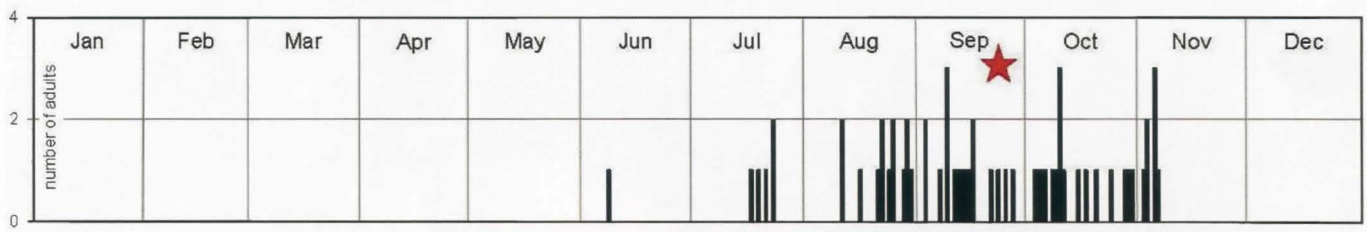

Fig. 2. Adult records for ***Parapamea buffaloensis*** in Louisiana. n = 61

The medium size noctuid species ***Parapamea buffaloensis*** (Grote) (Fig.1) is not a commonly encountered species in Louisiana. These 61 records are the only captured adults taken over the past 51 years by us in Louisiana despite expending far in excess of one million high-wattage mercury vapor light traps hours, average barely over one specimen per year. The records are illustrated on a 366-day phenogram (Fig. 2). This species is univoltine, peaking late September (red star). The parish records are illustrated in Fig. 3.

Covell (1984) and Heppner (2003) listed the range of ***buffaloensis*** as eastern United States: New York to Florida and Wisconsin to Texas. These same authors listed (adult) records only for the month of September.

Forbes (1954) listed ***buffaloensis*** records for New Jersey, New York and Wisconsin, (adults) only for the month of September.

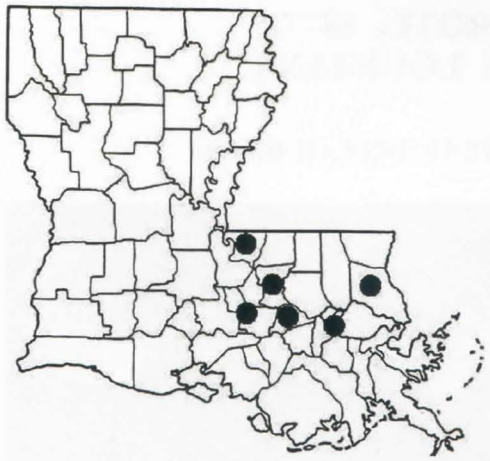

Fig. 3. Parish records for ***Parapamea buffaloensis***

The larvae of this moth species is reported in literature to feed on the roots of ***Saururus cernuus*** Linnaeus, Lizard's Tail family (Saururaceae).

Parapamea buffaloensis was not mentioned by Holland (1903), nor Heitzman & Heitzman (1987), nor Powell and Opler (2009). In Louisiana, Chapin and Callahan (1967) earlier reported at least two specimens of ***buffaloensis*** from Ascension Parish captured in October.

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Photo taken on Highway 244 near Cloudcroft, New Mexico. Elevation ~8,800 ft above sea level (October, 2020)

OBSERVATIONS ON THE LIFE HISTORY OF THE POLYPHEMUS MOTH (*ANTHERAEA POLYPHEMUS* [CRAMER, 1776]) IN FLORIDA

BY

MARC C. MINNO

INTRODUCTION

The Polyphemus Moth (Saturniidae: Saturniinae) is one of our largest moths and is locally common throughout most of Florida, except perhaps the extreme south (Kimball 1965). It is a beautiful species with stunning eyespots in the middle of the hindwings (Hall 2012). Although frequently observed and collected, surprisingly little is known of the biology of the Polyphemus Moth in Florida. Here I present observations of a single individual that I raised from an egg found in the wild in central Florida.

METHODS

On May 9, 2020 I found an egg of *A. Polyphemus* attached to the middle of the upperside of a mature Carolina Willow (*Salix carolinana*) leaf. The location was B.B. Brown's Gardens about three miles southwest of Clermont, Lake County, Florida (28°30'46.74" N latitude, 81°48'0.52" W longitude). I collected the egg and reared the resulting larva on cut oak branches set in a container of water on my bathroom window. The window provided natural daylight and the bathroom was frequently humid from the shower. I photographed this individual over time with a Canon EOS 7D camera and a Canon 180 mm macro lens using manual settings and the camera body flash.

RESULTS/OBSERVATIONS

I kept the egg collected in the wild in a plastic urine sample container with some damp paper towel. The larva eclosed from the egg on May 19, 2020. It ate the remains of the egg as its first meal. At first I added some young leaves of Muscadine Grape (*Vitis rotundifolia*) and Summer Grape (*Vitis aestivalis*) to the container, but the larva would not eat these. It also refused young leaves of Laurel Oak (*Quercus hemisphaerica; Quercus laurifolia*), but finally did accept mature laurel oak leaves.

The timing of life stages is presented in Table 1. Each instar lasted about seven or eight days, except for second instar, which only lasted four days, and the last instar, which lasted 12 days. The pupal stage lasted about 20 days. It took 60 days from egg hatch to adult eclosion.

Table 1. Timing of *Antheraea polyphemus* life stages.

DATE	STAGE	# DAYS
5/9/2020	Egg	11
5/19/2020	1st instar	7
5/26/2020	2nd instar	4
5/30/2020	3rd instar	7
6/6/2020	4th instar	8
6/14/2020	5th instar	12
6/25/2020	Cocoon/Pupa	22
7/17/2020	Egg to Adult	60

Fig. 1A-E compares the five larval stages of *A. polyphemus*. Instars 1-3 have large distinctive tubercles. The tubercles have orange colored tips with long setae in a stellate pattern. The tubercles are especially large on the dorsum of the body. In instars 4 and 5 the tubercles are greatly reduced in size and the setae are fewer and shorter in length.

Feeding behavior was similar throughout the larval stages. The larva would typically start feeding on the leaf blade at the base of a leaf. It would eat from the leaf margin to the midrib back and forth all the way to the leaf tip. The larva then ate from the leaf tip to the base including the midrib. During instars 1 through 4 the body was positioned in line with the leaf blade with the prolegs straddling each side of the midrib. Holland (1903/1968) used a figure from C. V. Riley that illustrates this perfectly. During the middle instars the larva also sometimes ate part of the petiole.

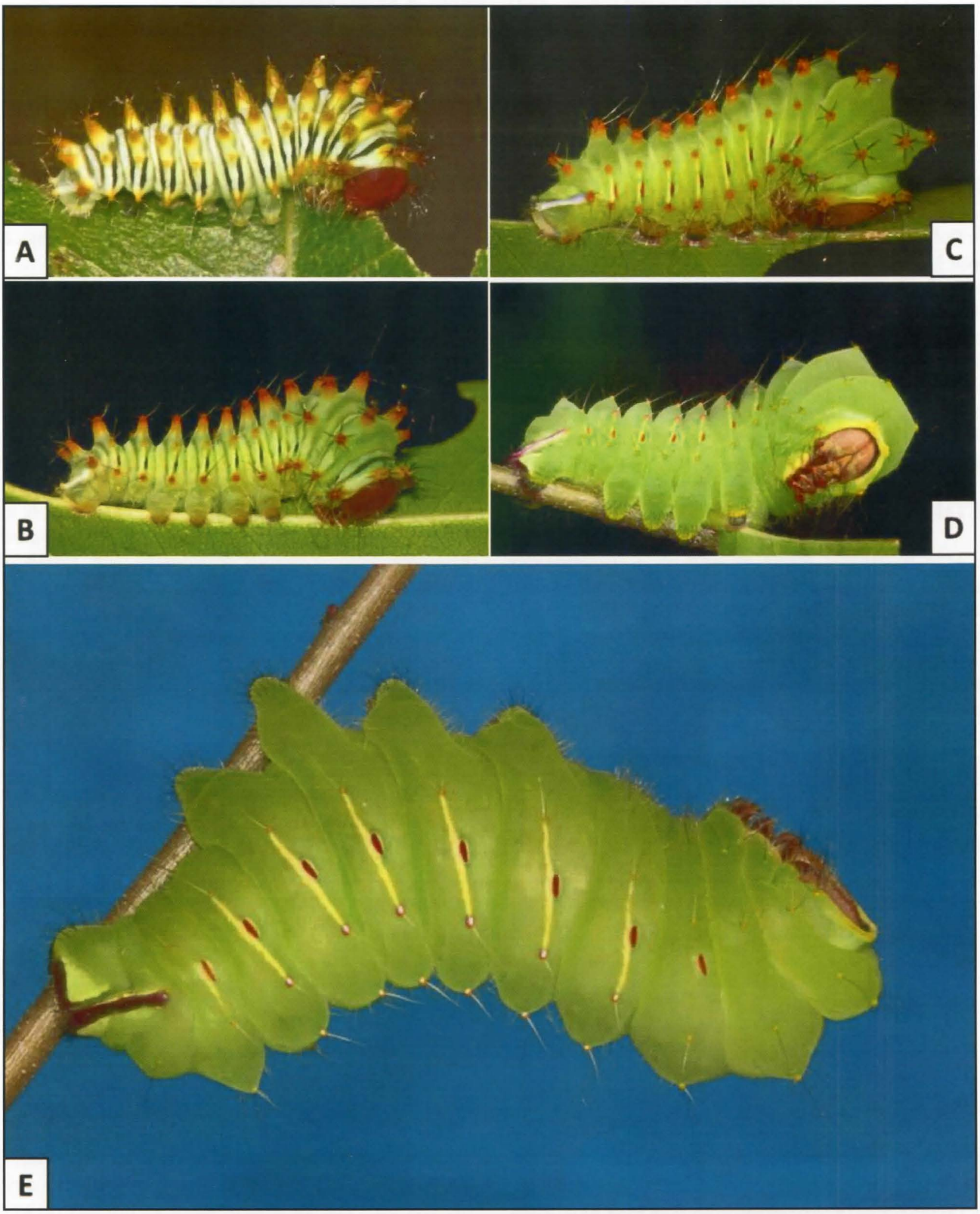

Fig. 1. ***Antheraea polyphemus*** **larval stages:**
A: 1st instar three days after eclosion from the egg.
B: 2nd instar two days after first molt.
C: 3rd instar two days after second molt.
D: 4th instar five days after third molt.
E: 5th instar 10 days after fourth molt.

The last instar, which is considerably larger and heavier than the previous stages, holds onto the twig with the prolegs, mostly the last three pairs. The larva bends the leaf toward it with the thoracic legs while eating. Like the previous stages, the last instar ate each leaf starting from the leaf base to the tip back and forth, leaving the midrib. At the leaf tip it ate the rest of the leaf to the leaf base and the petiole.

On June 25, 2020, around 1:20 pm I noticed that the larva was oddly positioned with the head pointed forward and the rear end raised (Fig. 2A). Then a large mass of watery frass shot out of the anus. A minute or so later a sac of brown liquid emerged and hung from the anus for several minutes, then fell to the ground (Fig. 2B, C). The sac was likely the lining of the hind gut. Next a smaller amount of liquid was expelled. Finally, one small drop and then another was expelled. The larva resumed a normal position after about 10 minutes.

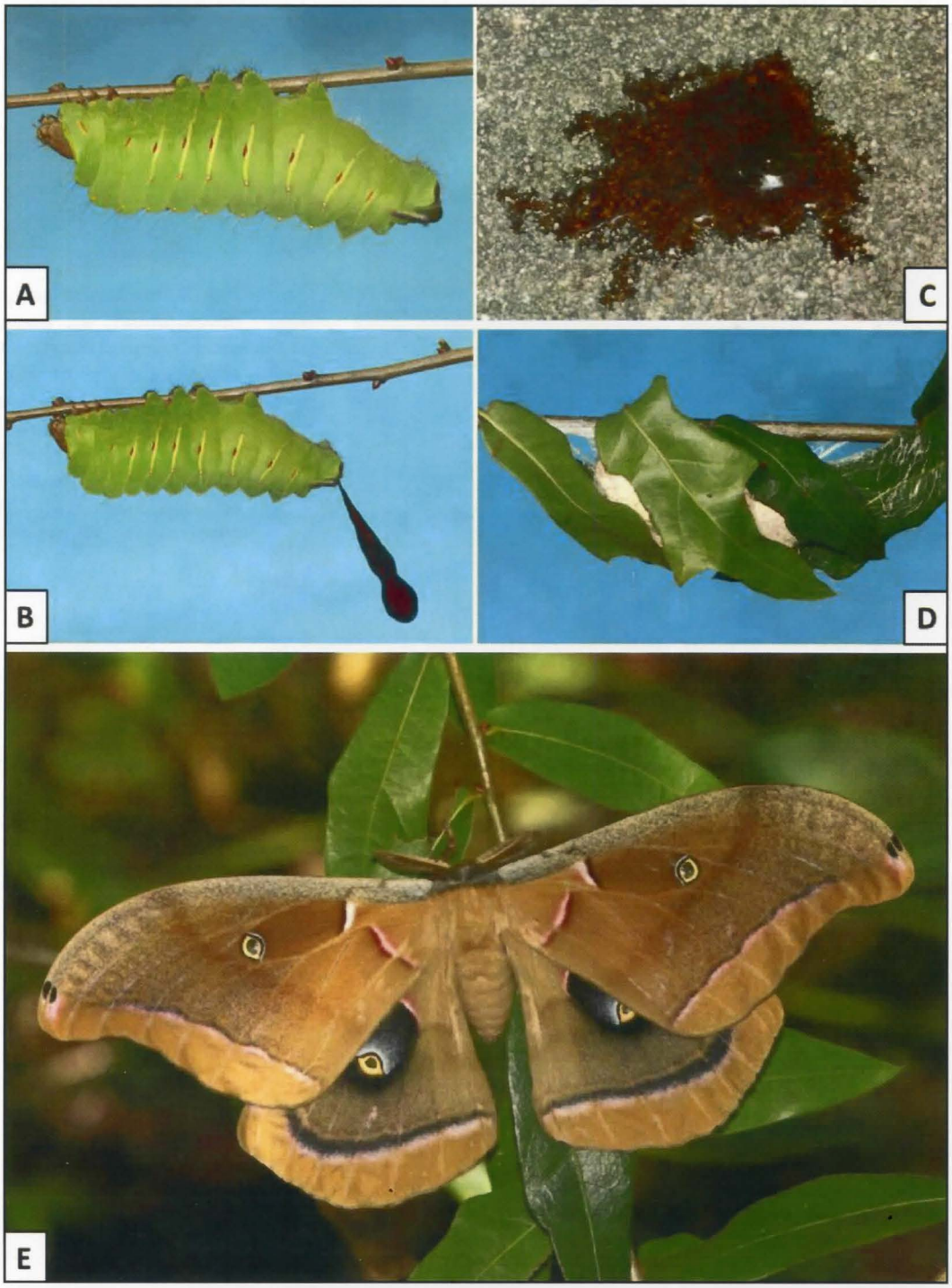

Fig. 2. *Antheraea polyphemus* development. A: larval posture during gut clean out. B: larva expelling the tranparent hind gut lining filled with brown fluid. C: watery, brown gut discharge. D: silk cocoon constructed laterally along a twig and wrapped in oak leaves. E: Adult male on day of eclosion, 60 days after egg hatch.

At 2:30 pm the caterpillar was wandering the oak branches and was still wandering at 3:30 pm. Around 4:00 pm it selected a twig with some small leaves. The larva began applying silk to the twig and the leaves, pulling and stretching the fore part of the body outward.

The cocoon appeared to be fully formed after a few days (Fig. 2D). It was attached loosely to the twig and wrapped in oak leaves. As mentioned by Collins and Weast (1961), Polyphemus larvae sometimes attach the cocoon more strongly with a peduncle, which wraps around the host twig. After leaf fall the cocoon dangles from the peduncle perhaps for several years.

Six days after the caterpillar began working on the cocoon, I cut away half of it to view the pupa inside (Fig. 3). The pupa appears to be teneral in Fig. 3A with areas of the exoskeleton not yet fully darkened. Figure 3B shows the transparent patch of cuticle on the head, which is thought to allow the brain to sense daylight in order to track day length (Waldbauer 1998). Day length is likely involved in the timing of adult emergence. A perfect male Polyphemus Moth emerged from the pupa on July 17, 2020 (Fig. 2E).

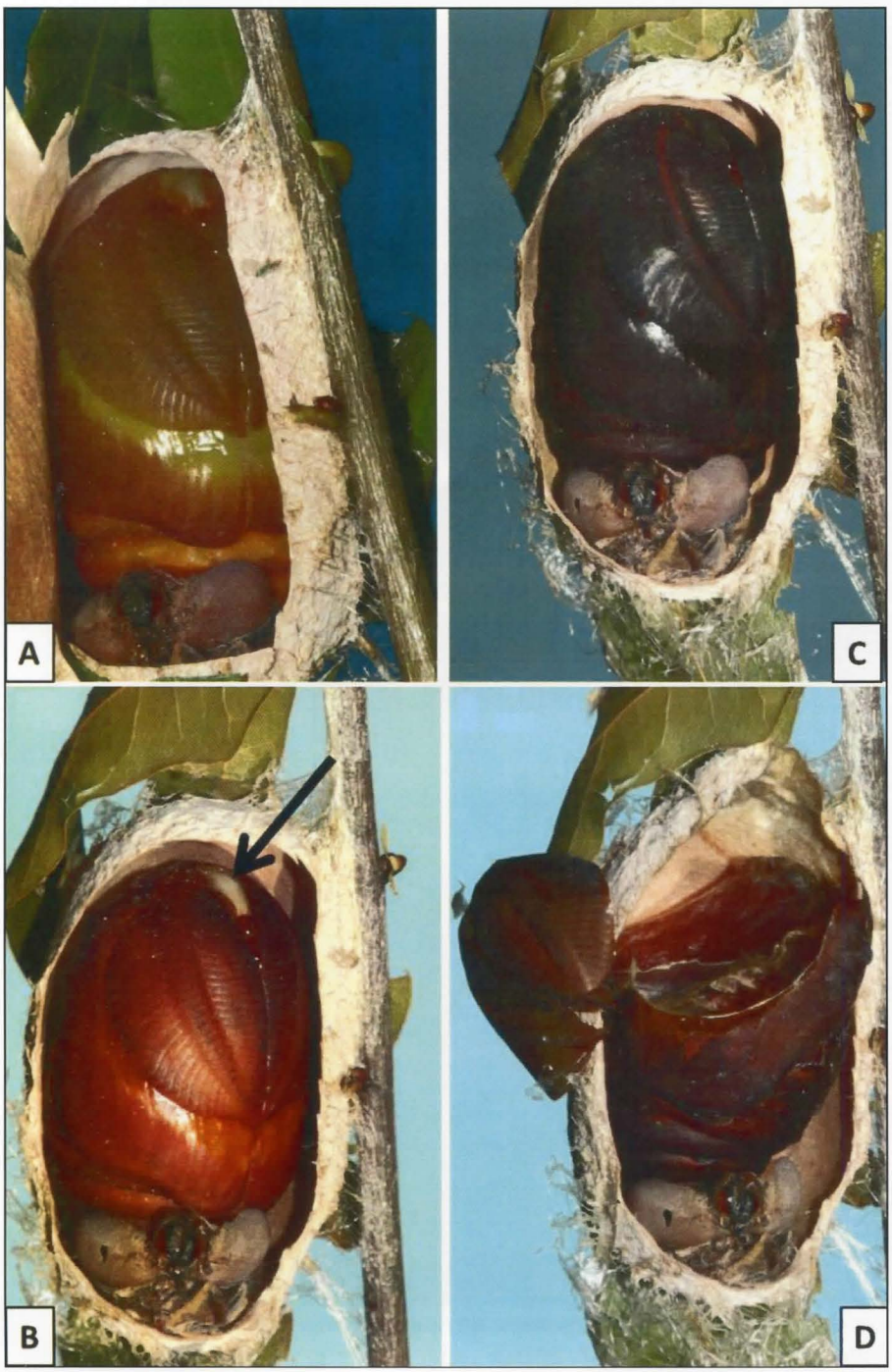

Fig. 3. *Antheraea polyphemus* pupal development. A: pupa at six days after cocoon construction. Larval exoskeleton is at the bottom. B: pupa at 18 days after cocoon construction. Arrow indicates the patch of transparent cuticle on the head. C: pupa on the day of adult eclosion, 23 days after cocoon construction. D: pupal exuvium.

RESEARCH REQUEST

I am currently investigating the host plants used by *A. polyphemus* in Florida. The list of host plants elsewhere in the range includes alders, hickories, beech, honey locust, witchhazel, walnut, tuliptree, apple, pines, sycamore, cherry, peach, plum, pear, roses, sassafras, and grapes (Tietz 1972). I would greatly appreciate receiving any observations of the Polyphemus Moth using any of these plants or others in Florida.

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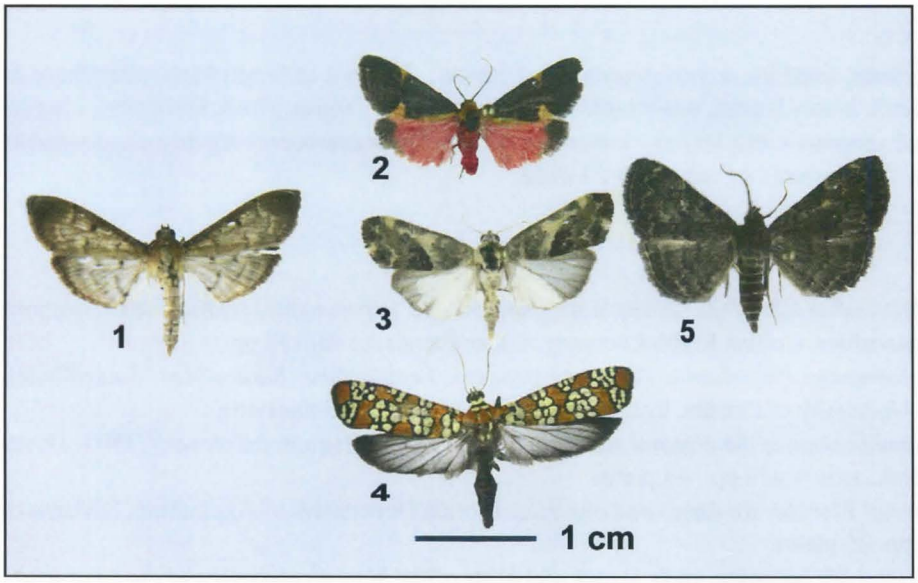
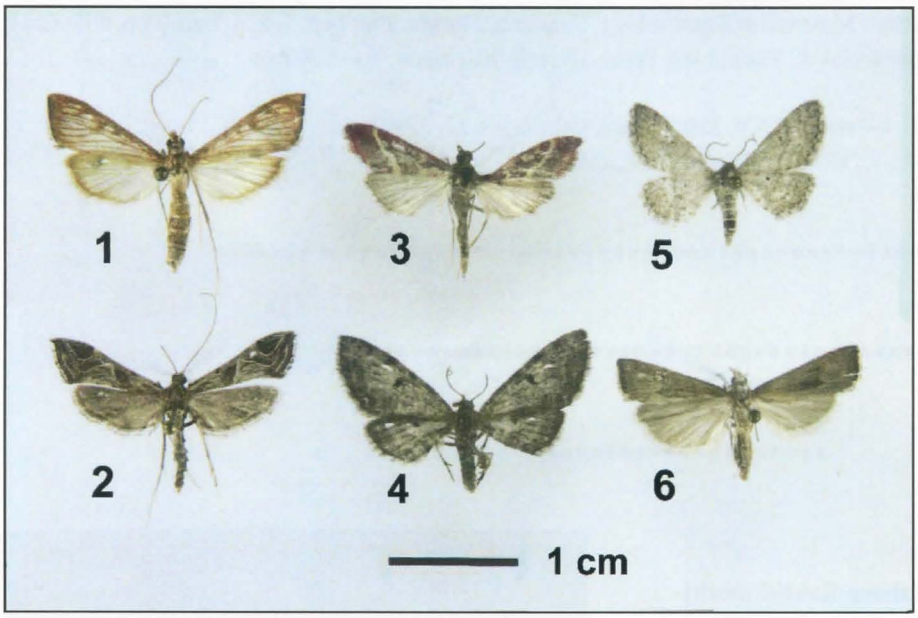
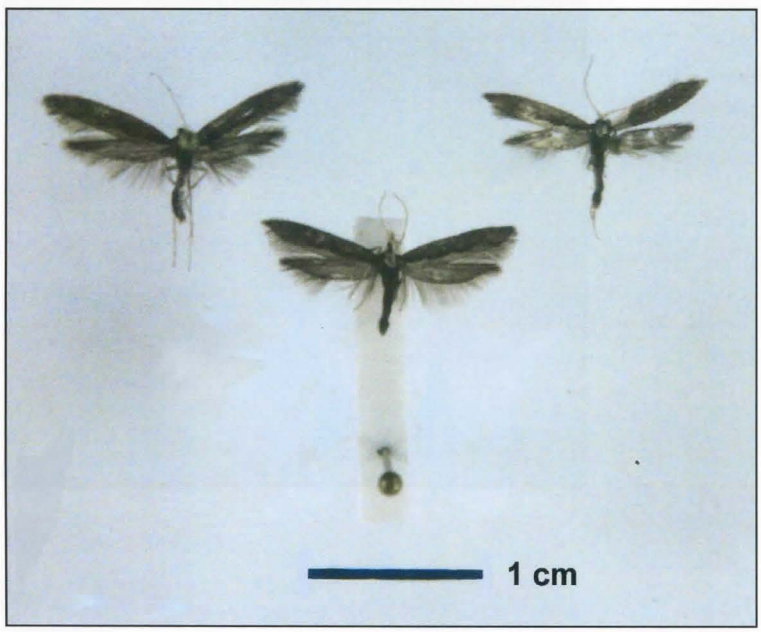
Puss caterpillar (southern flannel moth)
Megalopyge opercularis

Observed along San Antonio River in South Town, San Antonio, Texas (Photo by Richard Lombardini in mid November 2020)







Figs. 1-3

These moths and many others (including butterflies not shown) displayed in the 3 photographs were collected between March 1 and November 20, 2020, in my backyard in Lubbock, Texas. I refer to them as my "*Pandemic Collection*".

In this assortment of lepidoptera collecting was done with: a. sheet with blacklignt, b. bucket trap with black light, and c. various pheromone traps. Collecting and pinning were obviously the first chores. Next will be to identify these moths. The moths will be much harder to identify than the butterflies. However *Atteva punctella* which was very common almost every night (photo No. 4 in Fig. 1) stood out.

I make the assumption that the 3 moths in Fig. 3 are the same species.

Barry Lombardini

HYALORISTA EXUVIALIS (GUENÉE) IN FLORIDA

BY

JAMES E. HAYDEN

An exotic pyraustine moth has been lurking in Florida for many years. It is widespread, it resembles some *Pyrausta* species, its genitalia are quite distinctive, so a description is needed.

Jim Troubridge brought it to my attention in a donation of moths from Fakahatchee Strand in Southern Florida. I found several more in unsorted McGuire Center material. The specimens range from 1983 to the present, from the Florida Keys to Leon County in the Panhandle. I identified it preliminarily as *Hyalorista* sp. (Hayden 2015). Alma Solis (USDA Systematic Entomology Laboratory) subsequently identified specimens that I sent her as *Hyalorista exuvialis* (Guenée), and I saw the reference specimens on a visit to the SEL in 2019. I have not examined Guenée's type specimen, which came from French Guiana, and the genus needs revision. The species in Florida is present in Central America, and there are matching specimens collected in Honduras in the McGuire Center.

In the Moths of North America 13.2A (Munroe 1976 a), in the key to Pyraustini, *H. exuvialis* keys out either to *Hyalorista* Warren if the sacculus is interpreted as "thumblike" or to *Pyrausta* Schrank if not. *Hyalorista taeniolalis* (Guenée) is the only congener in the U.S. Otherwise, it runs to Couplet 33 in the *Pyrausta* key (Munroe 1976 b), similar to *Pyrausta insignitalis* (Guenée) (Figs. 5, 6). It differs from those species as follows: the forewing length is 8.0–8.5 mm (cf. 6.0–7.0 mm in *H. taeniolalis*, Figs. 3, 4). The brownish marginal fascia of the forewing has a straight inner margin and is well separated from the postmedial line (Figs. 1: m, 2). The same fascia on the hind wing also has an even width (Fig. 1, m), whereas in *P. insignitalis*, the fascia is wide on the costa and tapers to a point on the anal fold (Fig. 5, m). The editum (Fig. 7, e) is short, straight, with no scales at the apex; androconia are present as 1) a large pair lateral of the saccus, 2) a small tuft at the base of the valva, 3) a small tuft on the distal end of the sacculus; and the tegumen has wide "shoulders" (t). The other species do not have such androconia, the editum is long and curved, and the tegumen is narrow (Figs. 9, 11). The female genitalia of *H. exuvialis* (Fig. 8) have a wide, straight ductus bursae, the corpus bursae has a diverticulum (d) on the posterior half, and the lateral arms of the signum are long and rounded. The ductus bursae is coiled and the signum more compact in the other species (Figs. 10, 12).

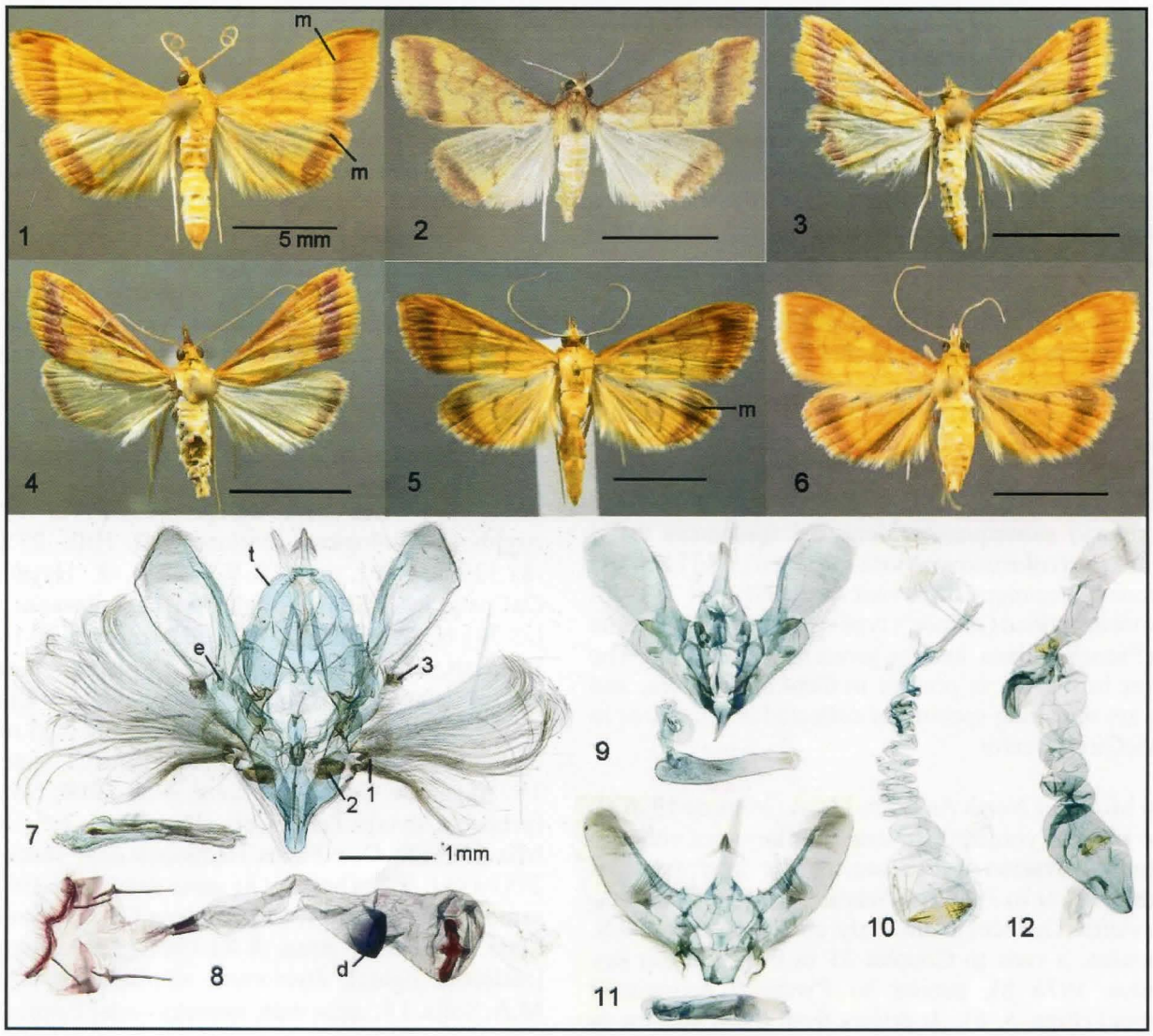
Material examined. All the specimen data are from the Florida State Collection of Arthropods and McGuire Center collections in Gainesville. **USA, Florida: Collier Co.:** Fakahatchee Strand, 25.98°N 81.41°W, 11-XI-2012, J. Troubridge, 1♀; same data, 23-III-2014, 1♀; same data, 16-XI-2014, E15-224, 1♀ (Fig. 2). **Hernando Co.:** Chinsegut Hill, 23-X-1991, W.L. Adair, Jr., MGCL slide 2505M, 1♂; Withlacoochee Sta. For., Croom W.M.A., vic. Kirk Tower, 9-IX-1990, Linwood C. Dow, 1♀. **Highlands Co.:** Highlands Hammock St. Pk., 10-XI-1983, H.D. Baggett, 1♀; Archbold Biological Station, 12-X-1990, H.D. Baggett, MGCL slide 2497, 1♂; same data, MGCL slide 2498, 1♀; same data except: 13-X-1990, *Hyalorista exuvialis* Guenée Det. M.A. Solis, 1♂; same data except 14-X-1990, 1♂, 1♀; Archbold Biological Station, Red Hill, 27.18588, -81.33928, UVL trap, 8–9-V-2016, J. Hayden, M. DaCosta, 1♂. **Hillsborough Co.:** Thonotosassa, 12025 US 301 N. 28.0624, -82.0303, Jackson trap, 25-II-2020, R. Cliatt, E20-844, MGCL slide 5774, 1♀. **Lee Co.:** Sanibel Island, San.-Cap. Res. Fdn. 1-XI-1991 Linwood C. Dow, 1♂. **Leon Co.:** Tall Timbers, SR 12, 3 mi west of Iamonia, 30-IX-1989, W.L. Adair, MGCL slide 2503, 1♀. **Manatee Co.:** Terra Ceia, 4-XI-1989, Dow, 1♂; [probable data]: Terra Ceia, leg. Dow, 3♂ (Fig. 1). **Miami-Dade Co.:** Fuchs Hammock near Homestead, 2-XI-1991, T.S. Dickel, 1♀; same data, 3-XI-1991, 1♀; same data, 7-XI-1991, 1♀. **Monroe Co.:** Bahia Honda State Recreation Area, 8-XI-1991, T.S. Dickel, RR [restroom lights], *Hyalorista exuvialis* Guenée Det. M.A. Solis, 1♀; same data, mercury vapor lamp, 1♂, 1♀.

James Adams, Lance Durden, and Brian Scholtens inform me that they have not yet found *H. exuvialis* in their collections from Georgia and South Carolina.

The host plants are unknown in Florida but are very likely in the mint family (Lamiaceae), probably a species of *Hyptis* Jacq. or related plant. *Hyalorista limasalis* (Walker) feeds on *Hyptis* (or *Condea*) *verticillata* (Bendicho-Lopez 1998), and *H. opalizalis* (Guenée) in Brazil is recorded on basil and marjoram (da Costa Lima 1950). Janzen and Hallwachs' database (2020) lists numerous records of "*Hyalorista exuvialis*" and provisional names like "*exuvialisDJH02*." Although their photos do not quite match the species in Florida, most of them are clearly *Hyalorista*, and most of the records are on *Hyptis*. *Pyrausta* is closely related, and most of those also feed on mints.

Acknowledgments

I thank Jim Troubridge for collecting specimens, Alma Solis for identifying them, and James Adams, Lance Durden, and Brian Scholtens for checking their collections.



Figs. 1, *Hyalorista exuvialis* ♂ (Manatee Co.) (m, marginal band; scales in habitus photos = 5 mm); 2, *H. exvuvialis* ♀ (Collier Co.); 3, *H. taeniolalis* ♂ (Marion Co.); 4, *H. taeniolalis* ♀ (Marion Co.); 5, *Pyrausta insignitalis* ♂ (Alachua Co.) (m, marginal band); 6, *P. insignitalis* ♀ (Pinellas Co.); 7, *H. exuvialis* ♂ genitalia (Hernando Co.) (androconia numbered; e, editum; t, tegumen); 8, *H. exuvialis* ♀ genitalia (Highlands Co.) (d, diverticulum); 9, *H. taeniolalis* ♂ genitalia (Miami-Dade Co.); 10, *H. taeniolalis* ♀ genitalia (Miami-Dade Co.); 11, *P. insignitalis* ♂ genitalia (Miami-Dade Co.); 12, *P. insignitalis* ♀ genitalia (Orange Co.).

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NOCTUA PRONUBA (LINNAEUS)(LEPIDOPTERA: NOCTUIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR. AND CHARLOTTE DOZAR BROU

Fig. 1. ***Noctua pronuba*** morphotypes, males and females (capture dates near Abita Springs, St. Tammany Parish) a. September 15-1996, b. October 6-2007, c. October 15-2000, d. September 25-1999, e. October 15-1997, f. July 27-2003, g. October 24-2008, h. August 25-2008, j. October 6-2000, k. October 7-2007, m. September 3-2000, n. October 1-1999, o. October 19, 2011, p. September 27-2008, q. July 16-2013.

Fig. 2. Parish records for ***Noctua pronuba***

The well known invasive species ***Noctua pronuba*** (L.) "Large Yellow Underwing" (Fig. 1) is a cutworm moth found in England, Europe and parts of Africa. In North America, it was first captured in 1979 and again September 1, 1981, on Sable Island, a small sandy Canadian island situated 300 km southeast of Halifax, Nova Scotia, (Wright, 1983). This species has now spread west to Alaska and nearly every province and state across North America.

The first captured specimen of ***pronuba*** in Louisiana was a female captured in a high-wattage ultraviolet light trap on September 15, 1996, at sec.24T6SR12E, 4.2 mi. NE of Abita Springs, aka '*The Abita Entomological study site*' (Brou, 1997). Since that initial St. Tammany Parish, Louisiana specimen, we have taken 14 additional adults at the same location also in high-wattage ultraviolet light traps. Sporadic field collecting in other areas of the state has not produced any other Louisiana records. All 15 morphotype variations are illustrated in Fig. 1.

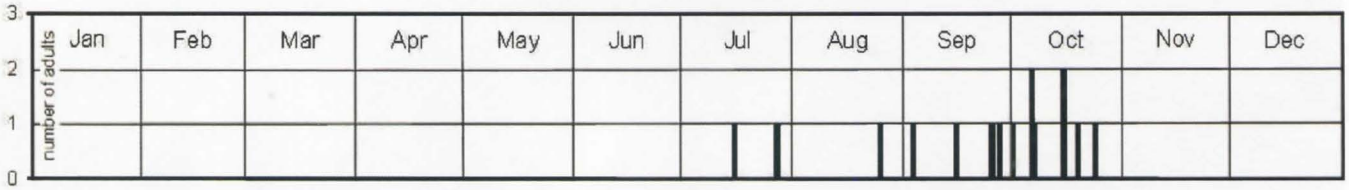

Fig. 3. Adult dates of capture for ***Noctua pronuba*** in St. Tammany Parish, Louisiana. n = 15

This non-native genus was not covered by Rockburne and Lafontaine (1976), nor Hodges (1983, nor Covell (1984), nor Heppner (2003). Powell and Opler (2009) addressed and illustrated both non-native introductions into North America, ***pronuba*** and ***Noctua comes*** Hübner. Powell and Opler stated that there are 13 species, mostly Eurasian, in the genus ***Noctua*** Linnaeus, 1758. Among published literature, ***pronuba*** is reported to be a generalist feeder upon numerous plants and trees. The Parish record is illustrated in Fig. 2, and the dates of capture in Louisiana are illustrated in Fig. 3, the annual brood peaking early October. I caution that without seeing the hindwings, ***pronuba*** with folded wings is easily overlooked and mistaken for the very common and abundant pest moth species ***Peridroma saucia*** (Hübner, 1808).

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Wright, B., 1983. ***Noctua pronuba*** (L.) on Sable Island, Nova Scotia, a record of dispersal. *Jour. Lepid. Soc.* 37: 169.

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REARING THE SWEETBAY SILKMOTH (*CALLOSAMIA SECURIFERA*) LEVY COUNTY FLORIDA

BY

RONDA SPINK AND BARBARA WOODMANSEE

In February of 2011 Barbara and I were compelled to raise some Sweetbay Silkmoths (*Callosamia securifera*). We headed out toward Cedar Key. We had been told this would be the best place to find the cocoons. We hit the jackpot and collected five from the Sweetbay trees (*Magnolia virginiana*) that lined the road. Barbara's "snake stick"proved to be very helpful for reaching them!

Our first moth, a female, eclosed on March 6, 2011 early in the morning. We learned that these moths were day fliers and mate between the hours of 12:00pm and 3:00pm. We were skeptical about the mating hours but it wasn't long before we found it proved to be true! The female extends her "sex gland", (Barbara and I have affectionately named it a "Baronda" after learning that it lacked a scientific name) from her abdomen starting at noon to call the males. If no one answers the call she retracts her "Baronda" at 3:00pm until the following day. Our female was successful with as many as seven males coming from what seemed like out of nowhere! This mating took place until 7:00pm that night. The female began ovipositing shortly after separating from the male. The eggs were laid in rows on the underside of the leaves. It took 10-14 days for the eggs to hatch. The caterpillars feed gregariously in the beginning becoming solitary feeders in later instars.

Barbara and I have seen several adults (probably males answering the females call) flying high above the tree line on Dixie Main Line Road in the Lower Suwannee NWR. They are easy to spot due to their size and flight which is best described as floppy and erratic.

Eggs, Sweetbay Silkmoths (*Callosamia securifera*)

First instar caterpillars

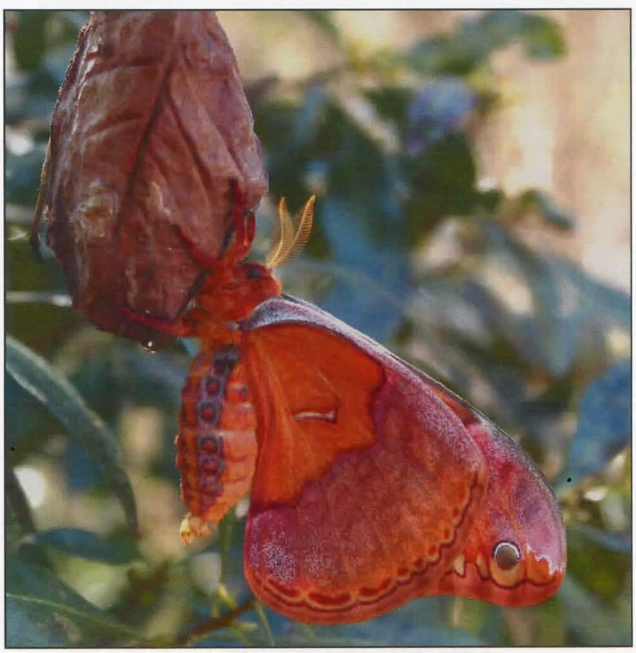
First instar caterpillars

Third instar caterpillars

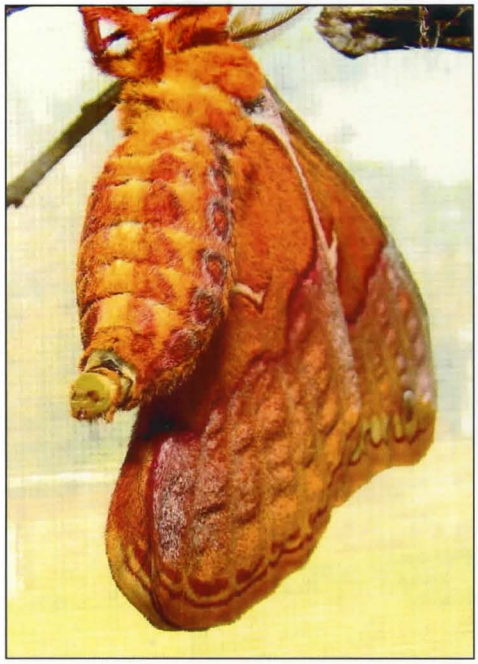
Fourth instar caterpillars

Fifth (last) instar caterpillar

Sweetbay Silkmoth cocoons collected (February 5, 2011)



Sweetbay Silkmoth female on cocoon with baronda exposed



Sweetbay Silkmoth gland protruding

Sweetbay Silkmoth male and female mating

Sweetbay Silkmoth ovipositing (March 2, 2011)

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

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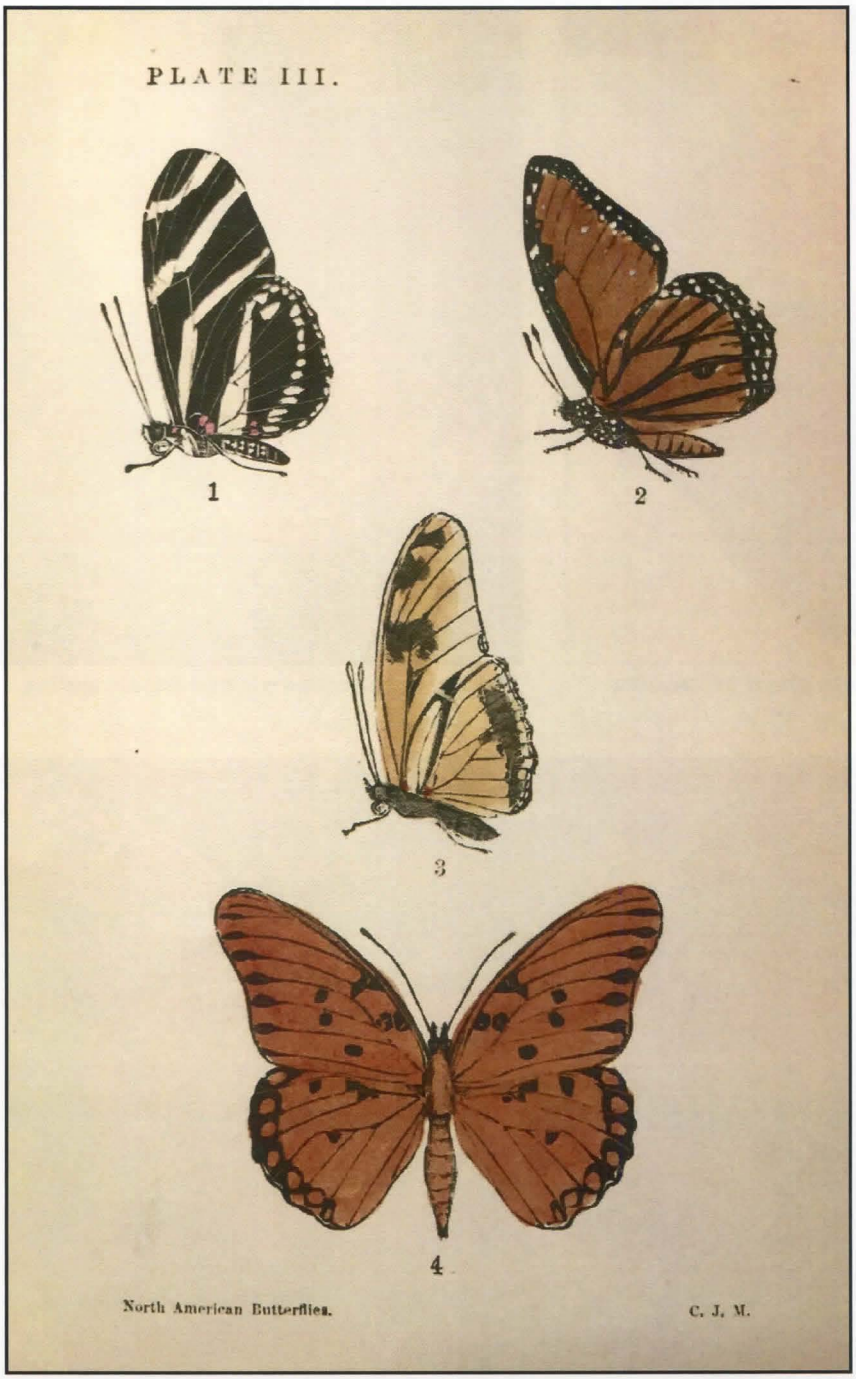

EXPLANATION OF FIGURES ON PLATE III.

1. Heliconia charitonia. 2. Danais berenice. 3. Colaenis julia. 4. Agraulis vanillae.

Manual of North American Butterflies by Charles J. Maynard, Illustrated with Ten Hand-Colored Plates, and Many Wood-Cuts, Boston: De Wolfe, Fiske & Co. 1891

(*Note: Names and spellings of the butterflies are of the 19th century and may be different today.*)

SWALLOWTAILS AND WHITES (PAPILIONIDAE, PIERIDAE) OF ARKANSAS

BY

HERSCHEL D. RANEY, JR., AND COLLABORATORS

Featured on the following pages are distributional maps representing the 9 papilionid and 17 pierid species recorded from Arkansas to date. This map 'gallery' is a continuation of the reporting begun in 2019 on Arkansas' butterfly life (website described, SL NEWS 41(2): 116-117; **hesperiid** maps, 41(4): 311-323; **lycaenid** & **riodinid** maps, 42(2): 109-116).

These maps are, in every respect, working drafts. They are based on the "Butterflies of Arkansas" website [http://www.hr-rna.com/RNA/Butterfly%20main.htm], in which records are plotted based on voucher specimens, sharp digital photographs, and reporting by a network of experienced observers. New records are solicited and welcomed from field observers, collection managers, and other naturalists, in order that the maps' coverage and accuracy may be improved.

Nomenclature: Technical nomenclature, and the sequence in which taxa are arranged in this report, follows Pelham (2008, *A catalogue of the butterflies of the United States and Canada with a complete bibliography of the descriptive and systematic literature*, J. Res. Lep. 40: xiv + 658 pp.).

Symbols used: In the legend beneath each figure, the species' unique **P** number (referring to Pelham 2008) is given, followed by Hodges' (1983) 'MONA' number in brackets with the prefix **H83**. An asterisk (*) placed to the right of a **P** number indicates that the particular species is regarded as a stray or vagrant in the state (7 cases). A key to the use of colored dots is included at the end of this report, showing names of the contributors on whose records the maps are based.

Sincere thanks are extended to the dedicated observers throughout the state who have provided records for the mapping effort.

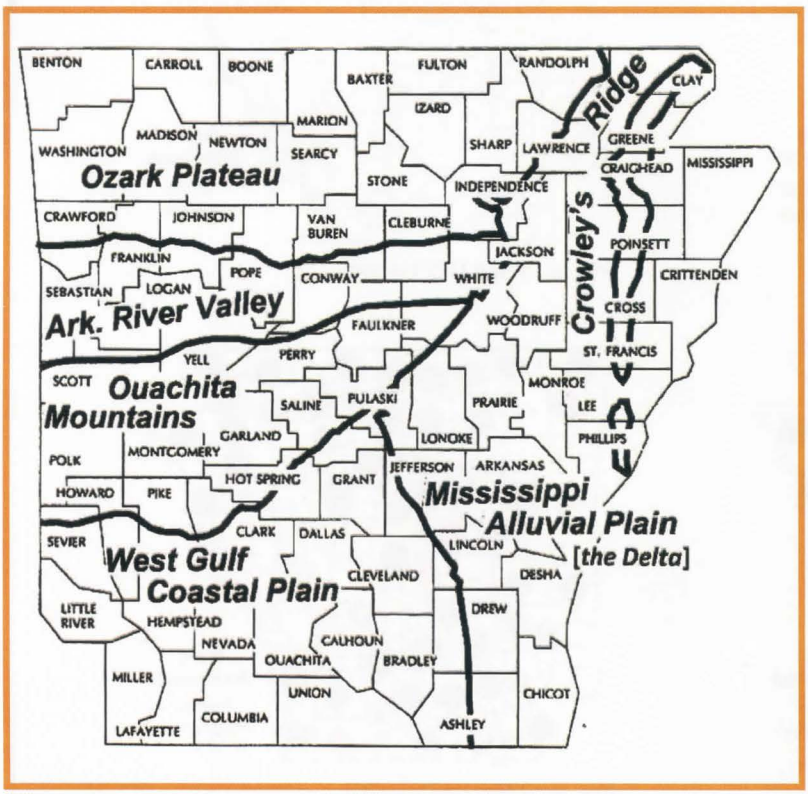

Fig. 1. Arkansas' 6 Natural Divisions [University of Arkansas Press/Julie Hill].

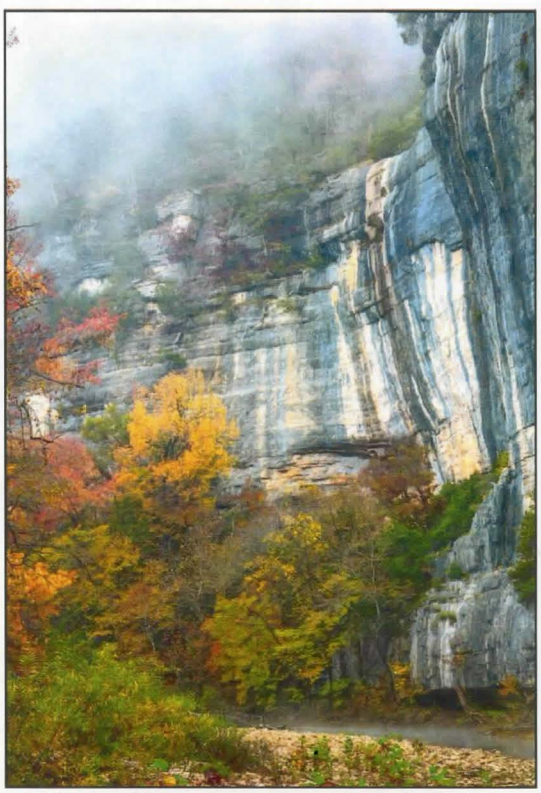

Fig. 2. Foggy morning at Roark Bluff, NW Arkansas [Paul Caldwell, www.photosofarkansas.com].

DISTRIBUTIONAL MAPS OF ARKANSAS PAPILIONIDAE AND PIERIDAE

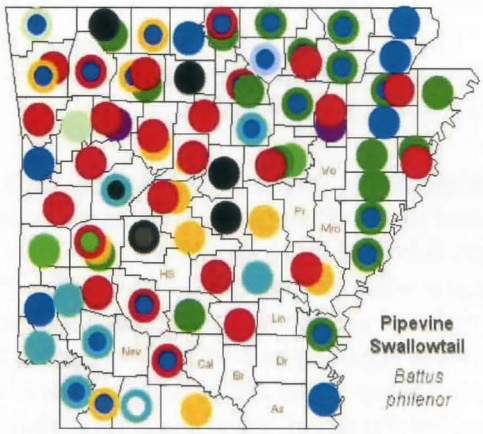

Fig. 3. P**294** [H83:4157].

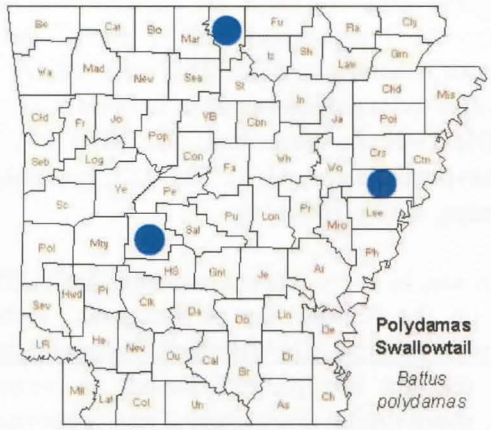

Fig. 4. P**295*** [H83:4158].

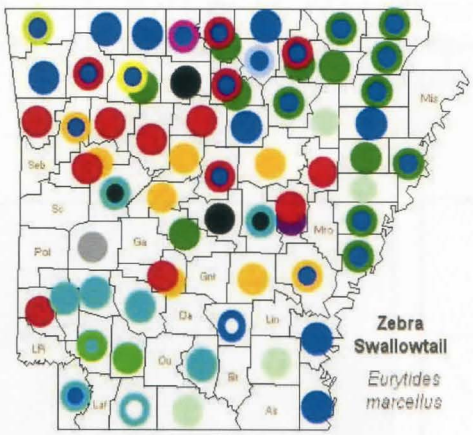

Fig. 5. P**296** [H83:4184].

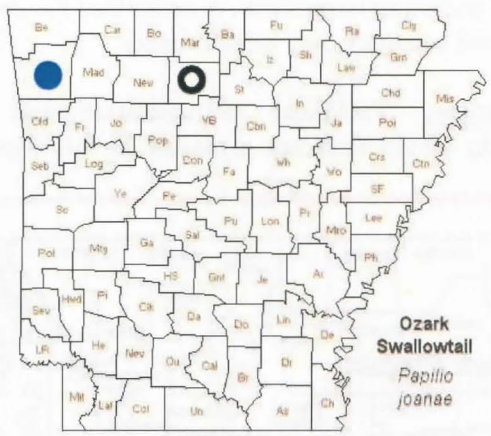

Fig. 6. P**300** [H83:4160].

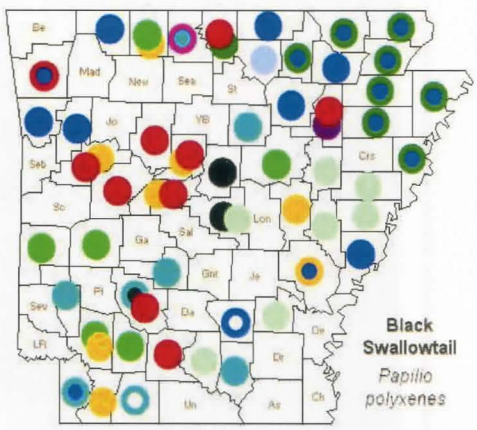

Fig. 7. P**301** [H83:4159].

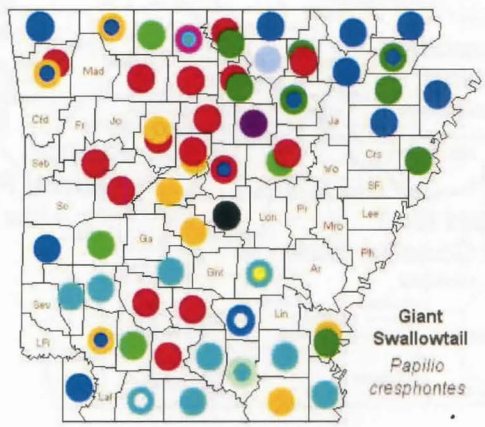

Fig. 8. P**306** [H83:4170].

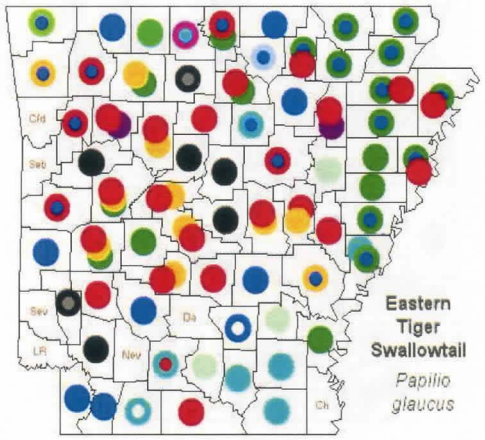

Fig. 9. P**316** [H83:4176].

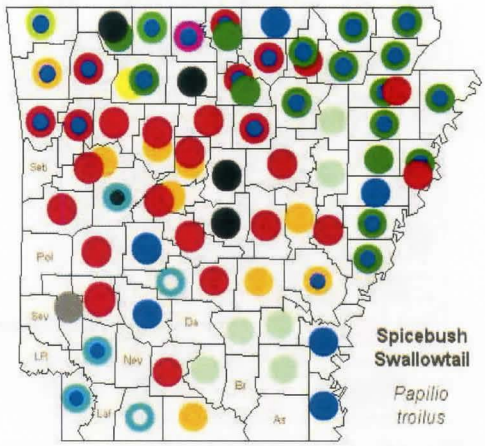

Fig. 10. P**324** [H83:4181].

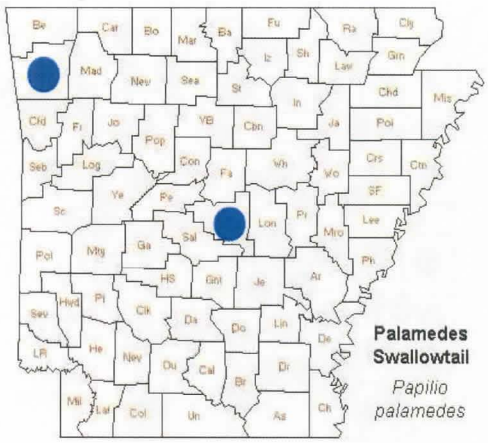

Fig. 11. P**325*** [H83:4182].

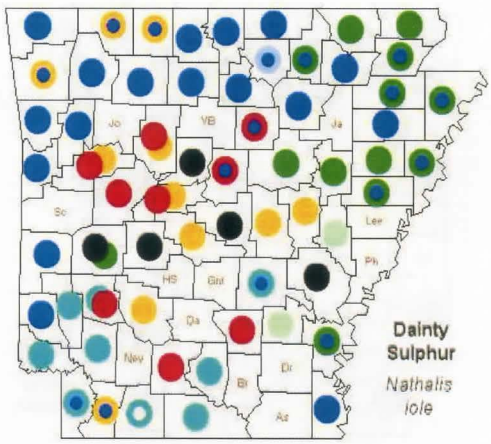

Fig. 12. P**328** [H83:4248].

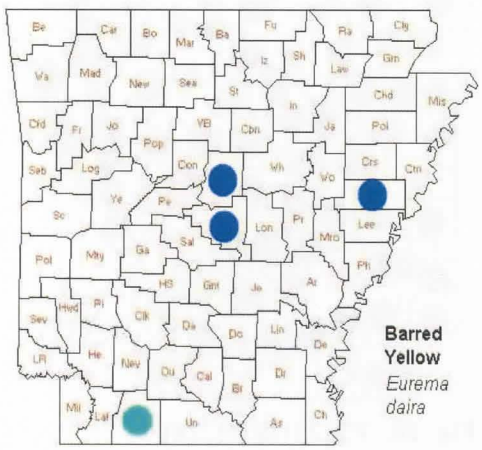

Fig. 13. P**329*** [H83:4243].

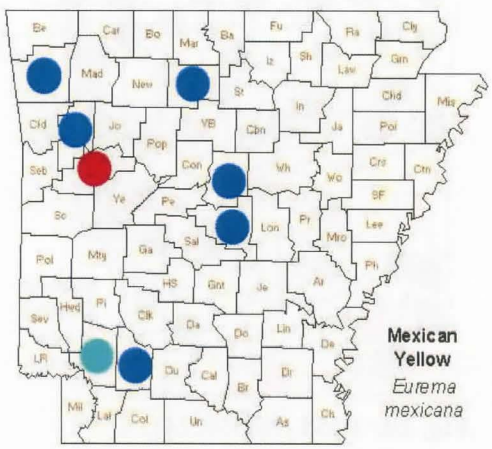

Fig. 14. P**331** [H83:4246].

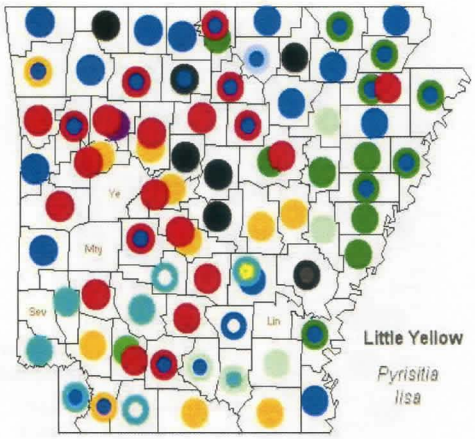

Fig. 15. P**336** [H83:4237].

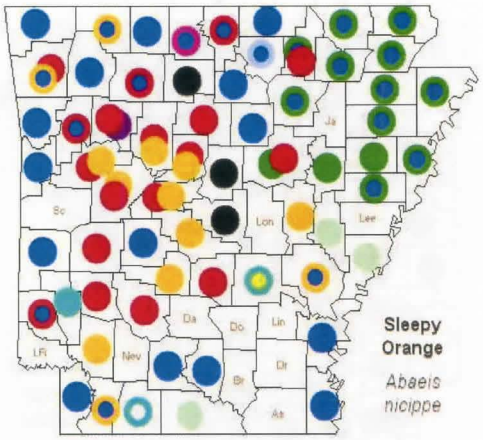

Fig. 16. P**339** [H83:4242].

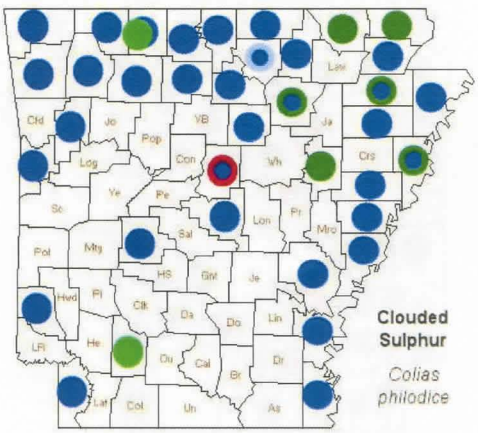

Fig. 17. P**340** [H83:4209].

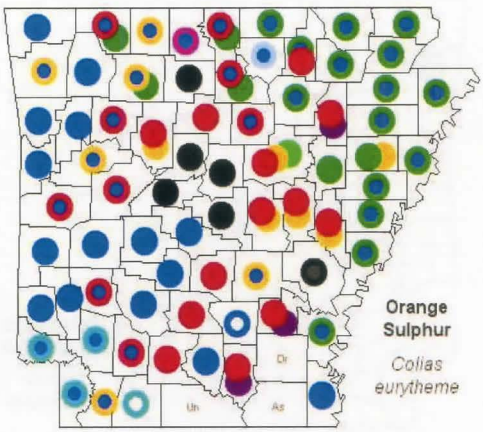

Fig. 18. P**341** [H83:4210].

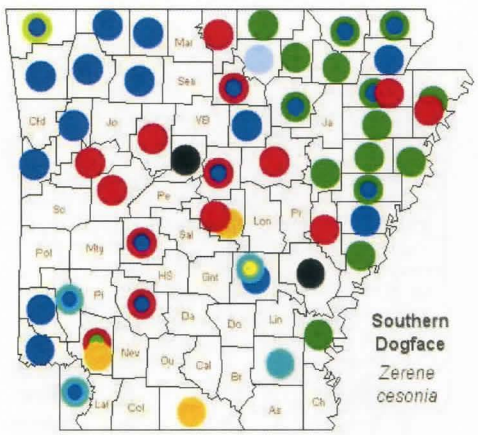

Fig. 19. P**358** [H83:4224].

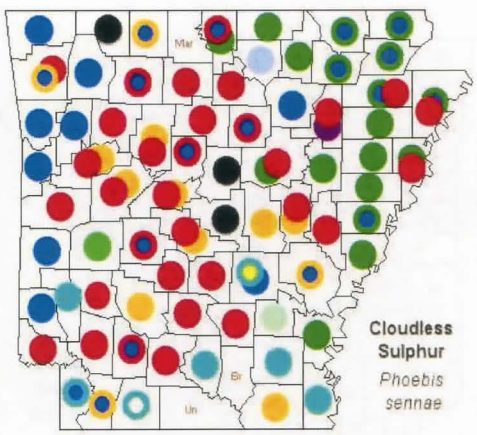

Fig. 20. P**362** [H83:4228].

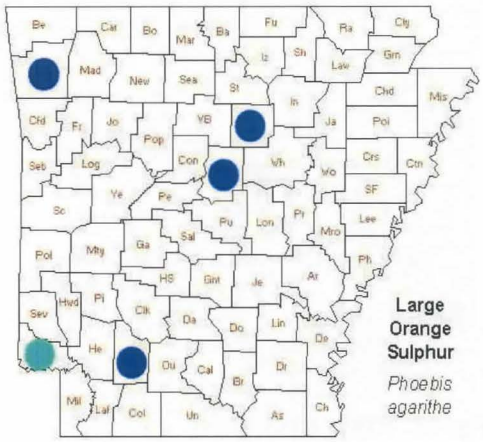

Fig. 21. P364* [H83:4231].

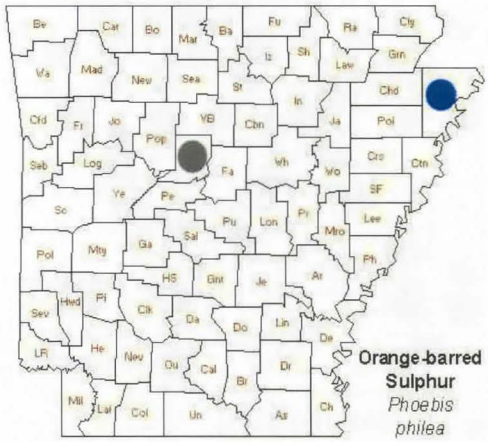

Fig. 22. P365* [H83:4229].

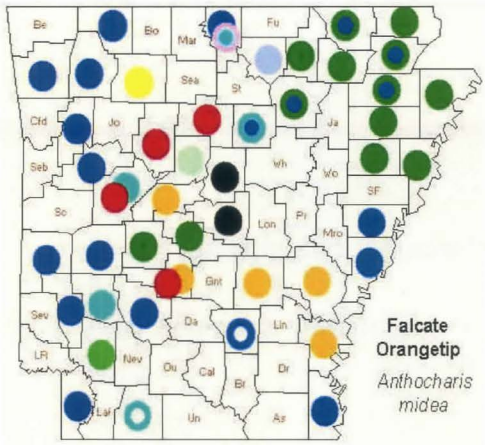

Fig. 23. P371 [H83:4207].

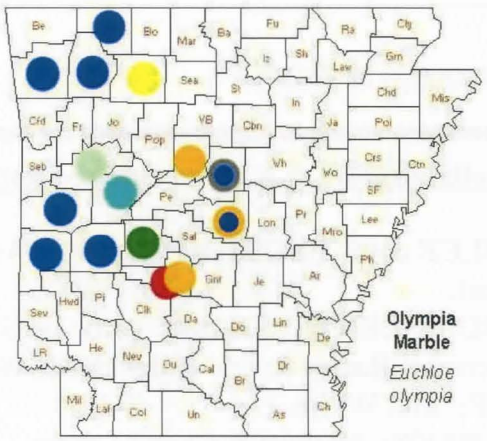

Fig. 24. P375 [H83:4202].

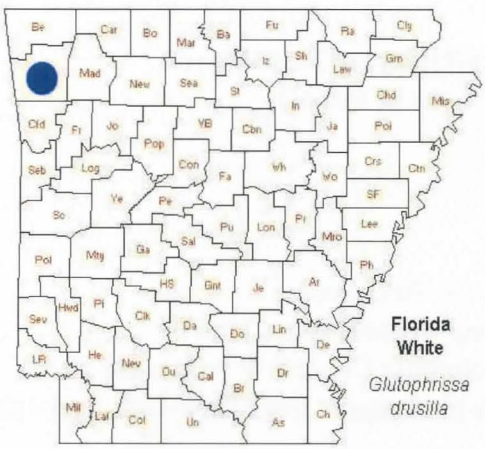

Fig. 25. P380* [H83:4190].

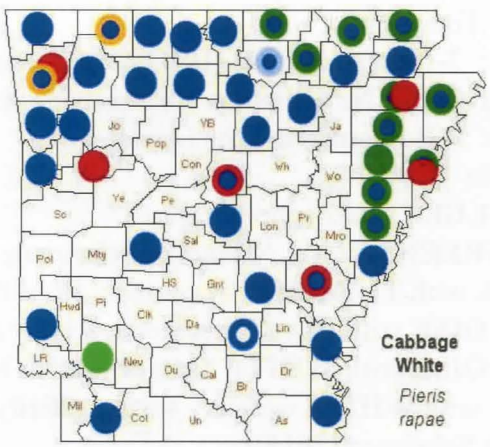

Fig. 26. P392 [H83:4197].

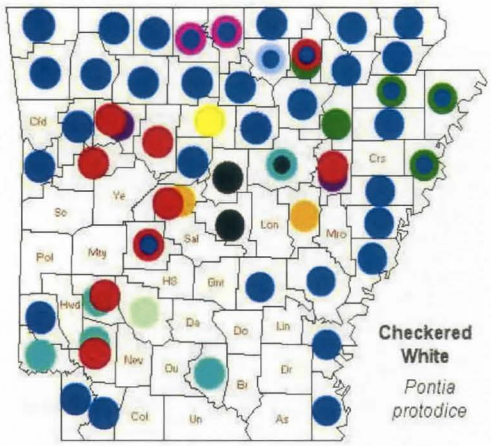

Fig. 27. P**394** [H83:4193].

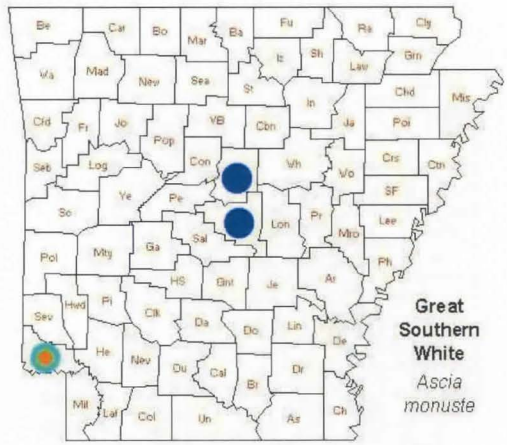

Fig. 28. P**397*** [H83:4198].

Figs. 3-28, Raney *et al.* (2019).

List of Collaborators & KEY to Colored dots

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

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

ENIGMOGRAMMA BASIGERA (WALKER, 1865) (LEPIDOPTERA: NOCTUIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR. AND CHARLOTE DOZAR BROU

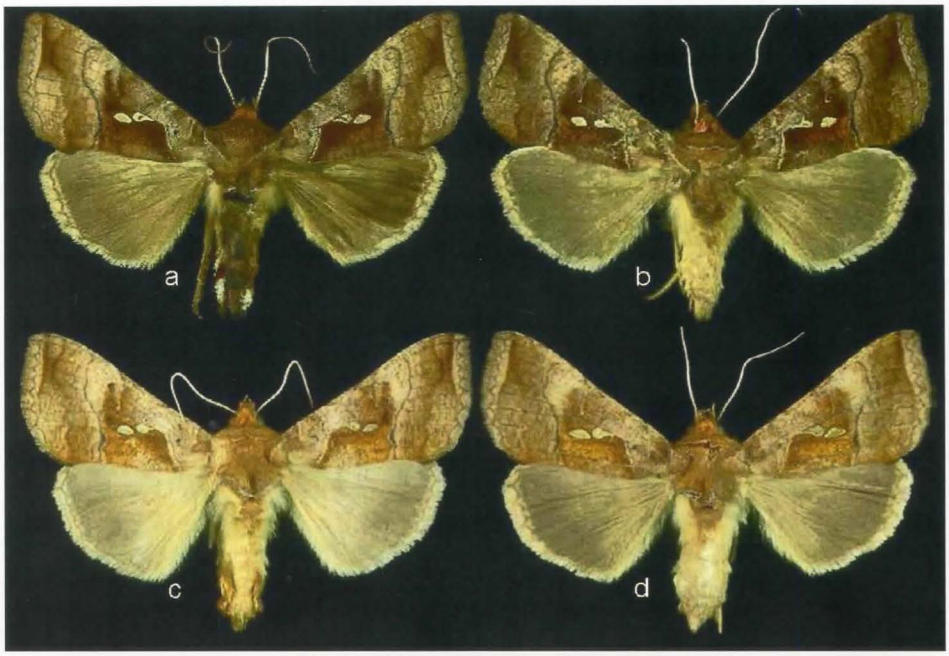

Fig. 1. ***Enigmogramma basigera***
Louisiana phenotypes: males. a, c, females. b, d.

The eastern North American moth ***Enigmogramma basigera*** (Walker, 1865) (Fig. 1) reportedly occurs from Maine to Florida, west to Texas and Mexico (Forbes, 1954), and from the state of Maine to the Great Lakes, south to Florida and west to Texas, (Lafontaine and Poole, 1991). Covell (1984) remarked ***basigera*** occurs Maine to Florida, west to south Missouri and Texas, (adults) occurring June-September. Covell's June-September flight period compliments our findings in Louisiana for the bulk of the annual population. Heppner (2003) listed the range for ***basigera*** to include Maine to Florida and Illinois to Texas with dates for adults from January to December in Florida. Lafontaine and Poole (1991) made an unsubstantiated anecdotal statement implying "Adults fly through the year in the South and there is a weak indication of peaks in abundance in the spring and the fall". This is not factually correct. Yes, adults of this species have been captured just about every day of the calendar year in the state of Louisiana, but a preponderance of the annual population is on the wing during the summer months of June, July and August, not during the spring and the fall (Fig. 3). We found minimally populated spring broods peaking in late February, and mid-April, with summer brood populations increasing beginning late May, climaxing (mid-July to mid-August), and trailing off early September to the end of the year. Based upon a multi-year composite sample of captured adults, we were able to discern about six distinctly populated naturally occurring wild broods (red stars on phenogram), the first

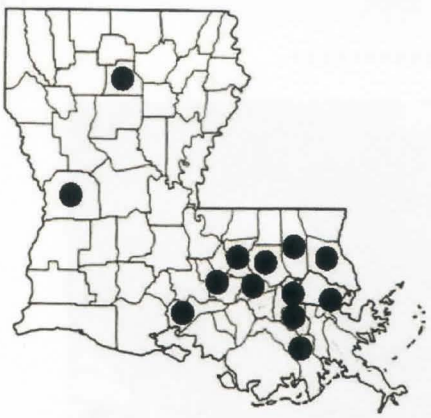

Fig. 2. Parish records for ***Enigmogramma basigera***

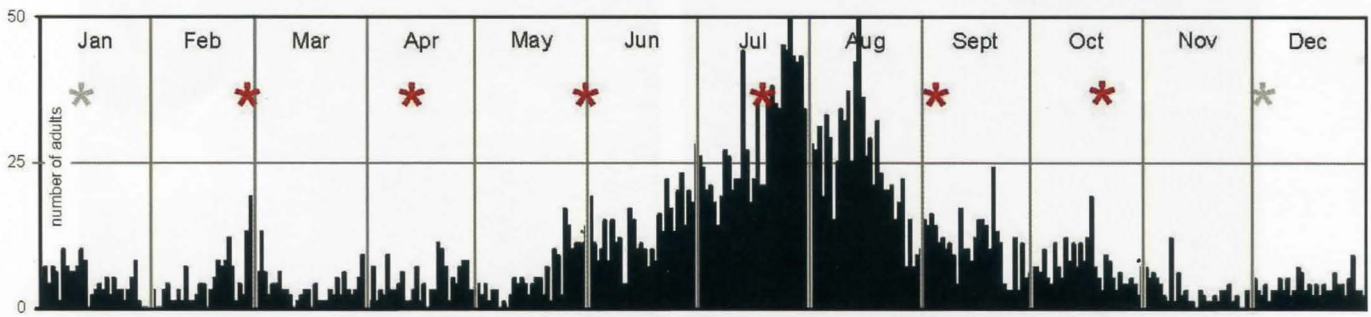

Fig. 3. Adult ***Enigmogramma basigera*** captured in Louisiana. n = 3,498

peaking around end of February with subsequent broods at about 47-day intervals to mid-October (Fig. 3). Using a much larger sample size, two additional lesser populated broods will probably become apparent peaking in

mid-January and at the beginning of December representing a total of eight annual broods. The parish records in Louisiana based upon our research are illustrated in Fig. 2.

Chapin and Callahan (1967) indicated (Smith et al, 1943) earlier mentioned ***basigera*** in Louisiana, and I have confirmed that literature record. Holland (1903) included ***basigera*** and illustrated it. This species was not covered for the state of Missouri by Heitzman and Heitzman (1987), nor for the western United States by Powell and Opler (2009). Thanks to Victoria Moseley Bayless (LSAM) for assistance with locating literature references.

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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)

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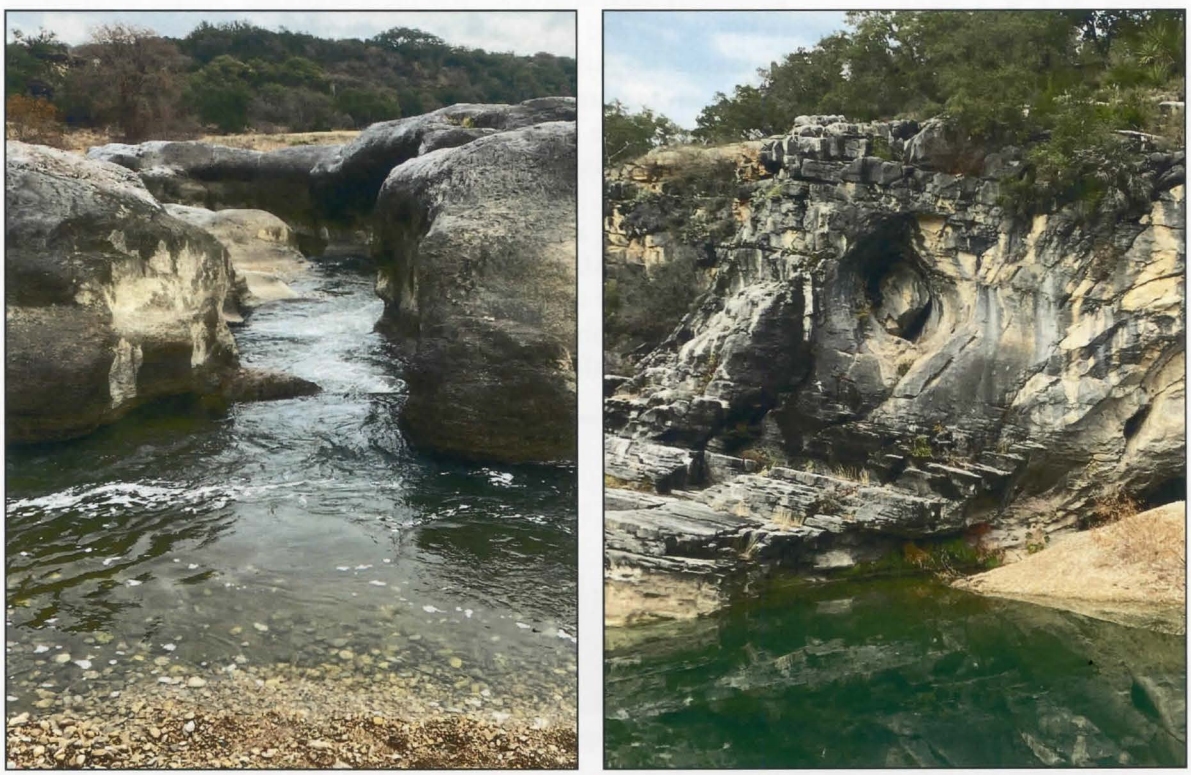

Perdenales Falls State Park, near Johnson City, Texas, December 11, 2020 (Photos by Richard Lombardini)

SCHINIA AREFACTA (HY. EDW.) AND *SCHINIA PETULANS* (HY. EDW.), NOTES ON LIFE HISTORIES

BY

JEFF SLOTTEN

Schinia arefacta and *Schinia petulans* are members of the family Noctuidae, Genus *Heliothinae*. In his book A Monograph to the North American Heliothentinae (Lepidoptera: Noctuidae), David F. Hardwick presented excellent data on many North American Heliothine species including careful life history work. Two species he did not record life history data on are *Schinia arefacta* and *Schinia petulans*. *Schinia petulans* ranges from Florida north to North Carolina and west through Oklahoma and Texas. *Schinia arefacta* has a more restricted range, from Florida through Georgia to the north and southern Alabama to the west. Both species can be found in the adult stage in September and October in Florida and Georgia in restricted sandhill habitats where their larval hostplants grow. They are attracted to ultraviolet lights but can also be found during the daytime resting on the flower heads of various composite species.

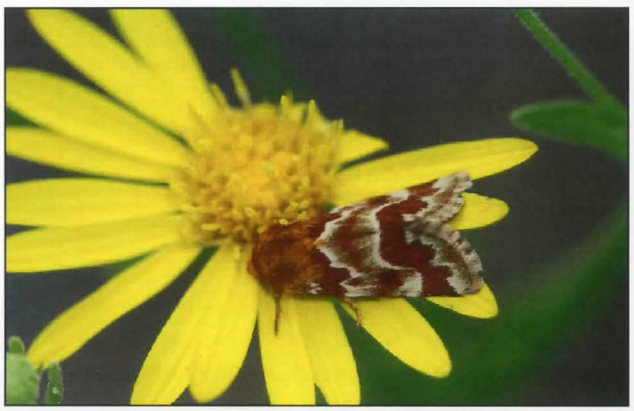

Fig. 1. Adult of *Schinia petulans* on its hostplant.

Fig. 2. Adult of *Schinia arefacta* on its hostplant.

I have found larvae of both species on two hostplants of the genus *Chrysopsis*, including *C. scabrella* and *C. gossypina* ssp. *hyssopifolia*. Verification of these plants was done by botanists at the Doyle Conner Bldg. Division of Plant Industry in Gainesville, Florida. There are other species of *Chrysopsis* that may be utilized by both species since there are many members of the genus. Larvae of both species are found during the latter part of the adult flight period and into the month of November.

Larvae of *Schinia petulans* are much easier to locate since they can be found inside the flower heads of the hostplants protecting themselves by pulling the flower petals together in a balloon like appearance. They match the color of the inside of the flower quite well, with their brown and yellow markings.

Fig. 3. A larva of *Schinia petulans* outside its flower chamber.

←

Fig. 4. A larva of *Schinia petulans* inside its flowerhead.

→

Larvae of *Schinia arefacta* are more difficult to find since they may hide during the daytime in earlier stages. They feed on the flowers of the *Chrysopsis* hostplants but do not protect themselves inside the flowers. The larvae are very cryptic and match the stems and outer green covering of the flowers. The later instar larvae can be found with heads sticking into the base of the flower with the rest of the larva exposed. Larvae may be mainly nocturnal since I have only found a handful of larvae during daytime searching.

Fig. 5. A later instar larva of *Schinia arefacta* on its hostplant.

I have not been successful obtaining eggs from either species but this should not be that difficult by placing adult females in a container with hostplant stems submerged in water with screening on the top of the container for ventilation. I have been successful obtaining pupae of both species from wild collected larvae by confining last instar larvae in a sand medium in a bucket with hostplant stems submerged in spickets of water. The larvae drop down and pupate in the medium where they remain dormant until the following fall. It is difficult to keep them from dessicating when reared in artificial mediums and often adults emerge deformed.

Figs. 6-8. Pupa of *Schinia arefacta* dug up from its underground chamber (3 different views).

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[Jeff Slotten, McGuire Center for Lepidopteran Research, 5421 NW 69th Lane, Gainesville, Florida 32653; Phone: (904) 699-3478]

THE GENUS *DORYODES* GUENÉE, 1857 (LEPIDOPTERA: EREBIDAE) IN LOUISIANA

BY

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Recently, the noctuid genus ***Doryodes*** Guenée, was revised (Lafontaine & Sullivan, 2015). In addition to clarifying four long existing named ***Doryodes*** species in eastern North America, these authors described six new species. Within the state of Louisiana, three of these new species were newly reported in addition to confirming one of the earlier described eastern species.

Over the past 51 years (1969-2020), using self-designed automatic-capture ultraviolet light traps we collected and retained over 400 examples of ***Doryodes*** adults from across the state of Louisiana. A few examples of our automatic-capture and manual capture light traps are illustrated in Figs. 7 and 8. Based upon our sample of spread adults, four species are currently confirmed for Louisiana): ***Doryodes broui*** Lafontaine & Sullivan (Figs. 1a-h), ***Doryodes reineckei*** Sullivan & Lafontaine (Figs.1j-n), ***Doryodes tenuistriga*** Barnes & McDunnough (Figs. 1o-r), and ***Doryodes latistriga*** Sullivan & Lafontaine (Figs. 1s-v).

Holland (1903) listed one species of ***Doryodes*** and illustrated it, ***Doryodes bistrialis*** (Geyer, 1832). Forbes (1954) discussed several species of the genus, but frankly, it is unclear to which species these text described names are referring to. Chapin and Callahan (1967) listed one species for the Baton Rouge area, ***bistrialis*** a species not currently known nor confirmed for Louisiana, (probably misidentified). Also, ***spadaria*** does not occur in any of the Gulf Coast States. Covell listed only two species of the four earlier described species known at the time of his publication; ***bistrialis*** and ***Doryodes spadaria*** Guenée, 1857; neither are known for Louisiana. The genus ***Doryodes*** was not mentioned by Rockburne and Lafontaine (1976), nor Powell and Opler (2009). Heppner (2003) included two species for the state of Florida listed as ***bistriaris*** and ***spadaria***. We address here most of our current holdings for each of the four confirmed Louisiana species.

Doryodes broui (Fig. 1a-h) Type locality is 4.2 miles northeast of the town of Abita Springs, St. Tammany Parish, Louisiana. Paratypes are from Mississippi, Texas and 98 ♂ and 49 ♀ are from Louisiana. This species is multi-brooded, with most specimens captured during the months of April and May. Wild captured adults exist for all 12 months in Louisiana (Fig. 2). The Louisiana parish records are illustrated in Fig. 6. A detailed list of paratype capture dates are illustrated in Table 1.

Doryodes reineckei (Figs.1j-n) Type locality is Baldwin County, Alabama. Paratypes are from Alabama and Mississippi, and 105 ♂♂ and 69 ♀♀ are from Louisiana. This species is multi-brooded and has one well populated brood in Louisiana peaking late April-early May, with very minor brood populations also occurring in August and November. Wild captured adults exist for all months except December. A much larger population sample of naturally wild collection adults will no doubt reveal additional broods (Fig. 3). A detailed list of paratype capture dates are illustrated in Table 2. The Louisiana parish records are illustrated in Fig. 6.

Doryodes tenuistriga (Figs. 1o-r) Syntypes ♂, ♀, Benito, Texas, ***tenuistriga*** is known only from the Gulf Coast of Texas and Louisiana, occurring as far south as Brownsville, Texas. Based on very few records, it appears that ***D. tenuistriga*** is multibrooded and has at least one spring brood and one fall brood in Louisiana. Wild captured adults exist only for the months of March, April, May, and September (Fig. 4). A much larger population sample of naturally wild collection adults will clarify and no doubt reveal additional broods. The Louisiana parish records are illustrated in Fig. 6. A detailed list of capture dates are illustrated in Table 3.

Doryodes latistriga (Figs. 1s-v) Type locality Baldwin County, Alabama, paratypes are from Alabama, Mississippi and 24 ♂♂ and 3 ♀♀ from Louisiana. The Louisiana parish records are illustrated in Fig. 6. This species is somewhat scarce, specimens existing throughout the year January to late November. Obviously this species is multi-brooded (Fig. 5). The paratype capture dates are illustrated in Table 4.

Fig. 1. ***Doryodes broui*** phenotypes, all paratypes: males.
a. June 4-1981 Edgard, St. John the Baptist Parish,
b. September 14, 1990, Johnson's Bayou, Cameron Parish,
c. April 9-1997 near Abita Springs, St. Tammany Parish,
d. May 25-1998 near Abita Springs, St. Tammany Parish,
e. March 1-1997 near Abita Springs, St. Tammany Parish,
females. **f.** September 16-1996, near Abita Springs, St.Tammany Parish,
g. April 7-2011 near Abita Springs, St. Tammany Parish,
h. April 23-2011 near Abita Springs, St. Tammany Parish.

Doryodes reineckei phenotypes, all paratypes from near Abita Springs, St. Tammany Parish: males.
j. May 20-1983,
k. May 11-1986.
females. **m.** April 12-1991,
n. May 8-2011.

Doryodes tenuistriga phenotypes: males.
o. September 19-1985 Johnson's Bayou, Cameron Parish,
p. September 19-1992 Johnson's Bayou, Cameron Parish,
females. **q.** May 18-1979 Fourchon, Lafourche Parish,
r. May 18-1979 Fourchon, Lafourche Parish.

Doryodes latistriga phenotypes, all paratypes: males.
s. May 23-1984 near Abita Springs, St. Tammany Parish,
t. March 5 - 2006 near Golden Meadow, Lafourche Parish,
females. **u.** July 2-2005 near Golden Meadow, Lafourche Parish,
v. October 28-2009 near Abita Springs, St. Tammany Parish, Louisiana.

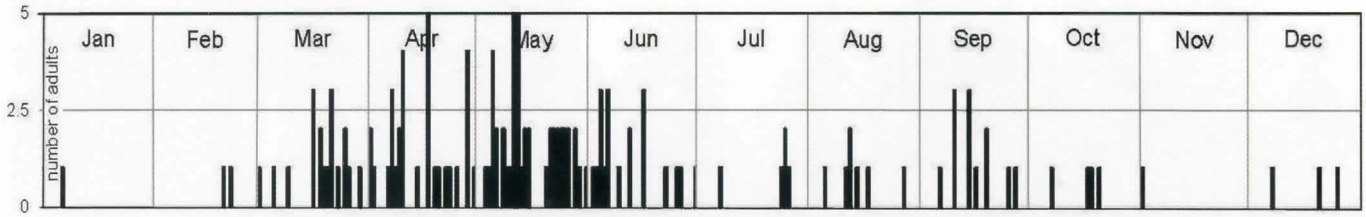

Fig. 2. Adult ***Doryodes broui*** captured in Louisiana. n = 149

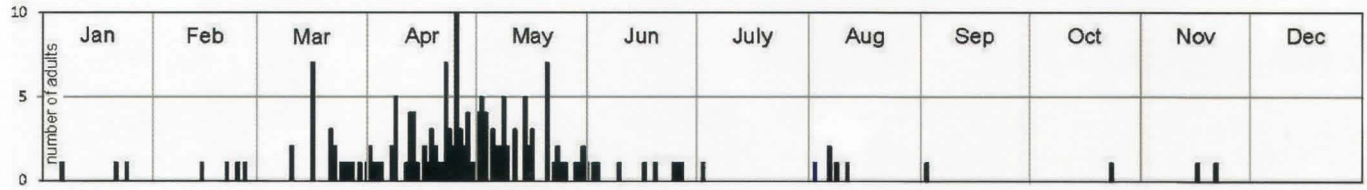

Fig. 3. Adult ***Doryodes reineckei*** captured in Louisiana. n = 171

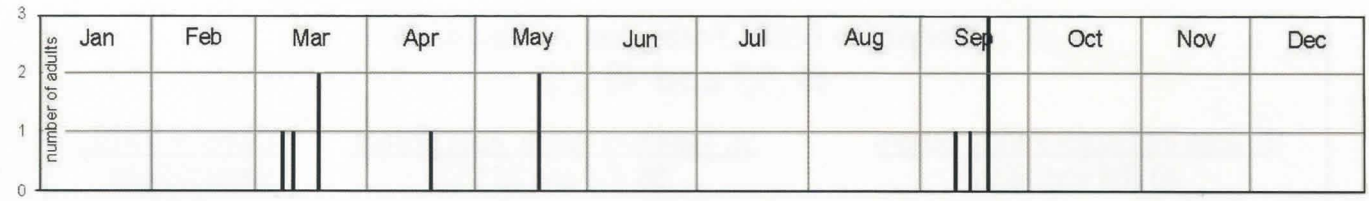

Fig. 4. Adult ***Doryodes tenuistriga*** captured in Louisiana. n = 12

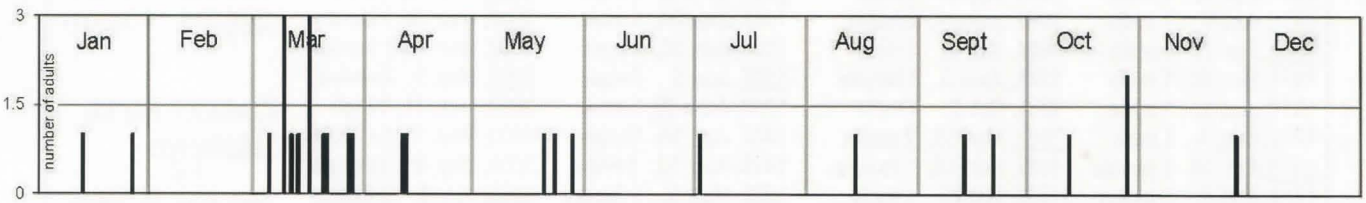

Fig. 5. Adult ***Doryodes latistriga*** captured in Louisiana. n = 29

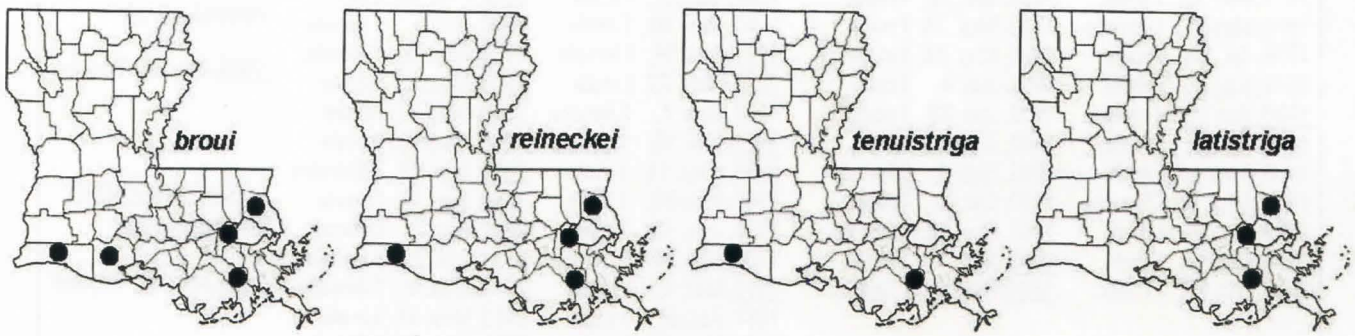

Fig. 6. Confirmed parish locations for ***Doryodes*** species recorded during this study.

Fig. 7. A few examples of some of the numerous dozens of stationary automatic capture light traps used at Abita Springs, St. Tammany Parish, Louisiana USA.

Doryodes broui Paratypes All Louisiana

89 ♂♂ and 46 ♀♀

St. John the Baptist Parish, Edgard
40 ♂♂ and 16 ♀♀

1976, Mar. 29, 1 female
1976, Apr. 2, 2 males
1976, Apr. 9, 1 male
1976, Jun. 9, 1 male
1977, Apr. 7, 1 male
1977, May 20, 1 male
1977, Jun. 5, 1 male
1977, Aug. 5, 1 male
1978, Apr. 10, 1 female
1978, May 6, 2 males
1978, Jun. 1, 1 male
1978, Aug. 7, 1 male
1979, Apr. 1, 2 females
1979, May 12, 1 male
1979, May 21, 1 female
1979, Jul. 24, 1 male
1979, Aug. 17, 1 male
1980, Jun. 25, 2 males
1980, Jul. 25, 1 male
1980, Aug. 4 1 male
1980, Aug. 12, 1 female
1980, Sep. 27 1 male
1980, Oct. 17, 1 male
1980, Oct. 29, 1 male
1980, Dec. 2, 1 female
1981, Apr. 17, 1 male
1981, May 9, 1 male
1981, June. 4, 2 males
1981, Jun. 6, 1 male
1981, June 6 , 1 female
1981, Oct. 2, 1 male
1982, Mar. 16, 2 males
1982, Mar. 16, 1 female
1982, Mar 25 1 male
1982, Apr. 17, 1 male
1982, Apr. 17, 3 females
1982, Apr. 20, 1 female
1982, May.12, 1 male
1982, May. 21, 1 male
1982, May. 24, 1 male
1982, Jun. 4, 1 male
1982, Jun. 26, 1 male
1982, Aug. 11, 1 male
1982, Sep. 6, 1 female
1982, Oct. 7, 1 male
1982, Dec. 25, 1 female
1983, May. 14, 1 male
1984, May, 23, 1 female

St. Tammany Parish, Abita Springs
36 ♂♂ and 29 ♀♀

1984, May. 24, 1 female
1985, Apr. 25, 1 male
1986, May. 5, 1 male
1986 May. 28, 1 male
1986, Jun. 30, 1 male
1988, Jun. 2, 1 male
1988, June 15, 1 male
1988, Jun. 16, 1 male
1988, Aug. 12, 1 male
1989, Mar. 5, 1 female
1989, Mar. 20, 1 female
1989, Apr. 28, 2 females
1990, Jun. 16, 1 female
1990, Jun. 22, 1 male
1990, Dec. 20, 1 male
1991, Apr. 14, 1 female
1992, May. 22, 1 male
1992, Nov. 1, 1 female
1993, Oct. 18, 1 female
1996, May. 11, 1 male
1996, May 29, 1 male
1996, Jun. 13, 1 male
1996, Sep. 16, 1 male
1997, Mar. 1, 1 male
1997, Apr. 9, 1 male
1998, May. 26, 1 male
1998, May 28, 1 male
1999, May. 5, 1 female
1999, May. 8, 1 male
1999, May. 11, 1 male
2000, Jan. 26, 1 male
2000, May. 15, 1 female
2002, Mar. 18, 1 male
2002, Mar. 18, 1 female
2002, Mar. 19, 1 female
2003, May. 5, 2 males
2003, May. 11, 1 male
2003, May. 11, 1 female
2003, May. 31, 1 female
2005, Jun. 3, 1 female
2006, May. 19, 1 male
2006, Jun. 2, 1 male
2006, Jun. 12, 1 female
2008, Feb. 20, 1 male
2008, Apr. 6, 1 female
2008, May. 6, 1 female
2008, May. 25, 1 male
2009, Mar. 26, 1 male
2009, Ma.y 12, 1 male
2010, Mar. 21, 3 females
2010, May 13, 1 male
2011, Apr. 7, 1 female
2011, Apr. 23, 1 female
2011, May. 3 , 1 female
2011, May. 21, 1 male
2011, May. 25, 1 female
2011, Jul. 7, 1 male
2013, Apr. 8, 1 male
2013, Apr. 10, 1 female
2013, May. 12, 2 females

Cameron Parish,
Johnson's Bayou
9 ♂♂
1985, Apr. 19, 1 male
1985, Sep. 10, 3 males
1985, Sep. 19, 2 males
1990, Sep. 14, 3 males

Cameron Parish,
Little Chenier
1 ♂
1981, May. 14, 1 male

Vermilion Parish,
Intracoastal City
1 ♂
1984, July 26, 1 male

Lafourche Parish,
Golden Meadow
2 ♂♂
1975, Apr. 28, 2 males

Lafourche Parish,
near Golden Meadow
1 ♀
2007, Mar. 25, 1 female

Table 1. Adult ***Doryodes broui*** capture dates.

Doryodes reineckei -- 174 Paratypes All Louisiana (105 ♂♂ and 69 ♀♀)

St. John the Baptist Parish, Edgard

30 ♂♂

1973, Apr. 23, 1 male
1975, Apr. 16, 1 male
1976, Apr. 18, 1 male
1976, Apr. 22, 3 males
1976, May 1, 1 male
1977, Apr. 22, 1 male
1977, May 5, 1 male
1977, May 23, 1 male
1978, May 1, 1 male
1978, May 7, 1 male
1978, May 8, 1 male
1978, May 11, 1 male
1978, June 3, 1 male
1979, Mar. 22, 1 male
1979, Apr. 1, 1 male
1979, Apr. 13, 2 males
1979, Apr. 24, 1 male
1979, May 2, 1 male
1981, May 9, 1 male
1982, Jan. 6, 1 male
1982, Mar. 16, 1 male
1982, Mar. 24, 1 male
1982, Apr. 17, 1 male
1982, Apr. 18, 1 male
1982, Apr. 24, 1 male
1983, May 14, 2 males

7 ♀♀

1976, Mar 26, 1 female
1977, May 5, 1 female
1977, May 6, 1 female
1979, Apr. 1, 1 female
1979, Apr. 13, 1 female
1982, Apr 2, 1 female
1983, May 14, 1 female

Lafourche Parish, Cut Off

3 ♂♂

1975, Apr. 11, 1 male
1975, Apr. 19, 1 male
1975, May 16, 1 male

Cameron Parish, Johnson's Bayou

1 ♂

1985, Oct. 23, 1 male

Lafourche Parish, Cut Off

14 ♀♀

1975, Feb. 21, 1 female
1975, Apr. 19, 1 female
1975, Apr. 20, 1 female
1975, Apr. 21, 1 female
1975, Apr. 25, 7 females
1975, May 2, 2 females
1975, May 3, 1 female

Lafourche Parish, near Golden Meadow

4 ♀♀

2005, July 2, 1 female
2005, Aug 6, 2 females
2007, Mar. 25, 1 female

St. Tammany Parish 4.2 mi NE of Abita Springs

71 ♂♂

1983, Apr. 8, 1 male
1983, May 15, 1 male
1983, May 20, 4 males
1984, May 23, 1 male
1984 Aug. 8, 1 male
1985, Apr. 28, 1 male
1986, May 1, 1 male
1986, May 11, 1 male
1986, May 14, 1 male
1986, May 16, 2 males
1988, May 31, 1 male
1988, Nov. 29, 1 male
1989, May 25, 1 male
1989, Jun 25, 1 male
1990, Feb. 26, 1 male
1990, Mar. 10, 1 male
1990, June 2, 1 male
1992, June 24, 1 male
1993, Apr. 14, 1 male
1993, Nov. 16 1 male
1994, Apr. 17, 1 male
1994, May 4, 1 male
1995, Mar. 29, 1 male
1995, Apr. 23, 1 male
1995, Aug. 2, 1 male
1996, Apr. 20, 1 male
1996, May 20, 2 males
1996, May 29, 1 male
1997, Feb. 24, 1 male
1997, Mar. 1, 1 male
1998, June 16, 1 male
1999, Apr. 4, 1 male
2001, Apr. 28, 1 male
2002, Jan 24 , 1 male
2002, Mar. 16, 1 male
2002, Mar 22, 1 male
2005, Apr. 7, 1 male
2006, Mar, 27, 1 male
2006, Apr. 28, 1 male
2006, May 2 , 1 male
2007, May 5, 1 male
2007, June 6, 1 male
2008, Apr. 16, 1 male
2008 June 19, 1 male
2009, Feb. 14, 1 male
2009, Mar. 21, 1 male
2009, Apr. 12, 2 males
2009, Apr. 19. 1 male
2009, Apr. 21, 1 male
2009, Apr. 28, 1 male
2010, Mar. 21, 2 males
2010, Apr. 25, 1 male
2010, May 5, 1 male
2010, May 24, 1 male
2010, May 26, 1 male
2011, Jan 21, 1 male
2011, Apr. 8, 1 male
2011, Apr. 25, 3 males
2011, Apr. 27, 1 male
2011, May 3, 1 male
2011, May 28, 1 male
2012, Apr. 22, 1 male
2013, May 30, 2 males

44 ♀♀

1983, May 15, 1 female
1983, Sep.. 2, 1 female
1984, Apr. 13, 1 female
1984, Apr. 26, 1 female
1984, Apr. 27, 1 female
1984, Apr. 29, 1 female
1984, Apr. 30, 1 female
1984, May. 8, 2 female
1985, Apr. 26, 1 female
1986, May 7, 1 female
1986, May 11, 1 female
1986, May 22, 1 female
1988, May 9, 1 female
1989, Apr. 8, 1 female
1990, May 14, 1 female
1991, Apr 12, 1 female
1996, Apr. 22, 1 female
1996, May 20, 1 female
2000, Mar. 19, 1 female
2000, Mar. 19, 1 female
2002, Mar. 15, 1 female
2002, Mar. 16, 6 females
2005, Apr. 7, 1 female
2005, Apr. 8, 1 female
2008, Mar. 31, 1 female
2008, May 1, 1 female
2008, Aug. 11, 1 female
2009, Apr. 12, 1 female
2010, Apr. 3, 1 female
2010. Apr. 23, 1 female
2011, Apr. 18, 1 female
2011, Apr. 22, 1 female
2011, Apr. 26, 1 female
2011, May 3, 2 females
2011, May 8, 1 female
2012, Feb. 12, 1 female
2012, June 9, 1 female
2013, Apr. 8, 2 females

Table 2. Adult ***Doryodes reineckei*** capture dates.

near Abita Springs, St. Tammany Parish
2016, March 8 x 1, March 11 x 1, March 18 x 2

Fourchon, Lafourche Parish
1979 May 18 x 2

Johnson's Bayou, Cameron Parish
1983 April 18 x 1,
1985 September 10 x 1, September 19 x 3,
1990 September 14 x 1

Table 3. Adult capture dates for ***Doryodes tenuistriga.***

Doryodes latistriga - 27 Paratypes-Louisiana
24 ♂♂ and 3 ♀♀

St. John the Baptist Parish, Edgard	St, Tammany Parish 4.2 mi NE of Abita Springs
1 ♂	17 ♂♂ & 1 ♀
1979, Sep. 21, 1 male	1983, Nov 27, 1 male
	1983, May 20, 1 male
	1984, May 23, 1 male
Lafourche Parish, near Golden Meadow	1985, Mar. 28, 1 male
5 ♂♂ & 1 ♀	1987, Mar 27, 1 male
2005 July 2, 1 female	1988, Aug 14, 1 male
2006, Mar. 6, 5 males	1989, Jan. 13, 1 male
	1989, Mar. 20, 1 male
	1998, Sep. 13, 1 male
	2000, May 28, 1 male
	2001, Oct. 12, 1 male
Cameron Parish, Johnson's Bayou	2002, Jan. 27, 1 male
1 ♀	2002, Mar. 16, 1 male
2002, March 16, 1 female	2008, Apr. 11, 1 male
	2009, Apr. 12, 1 male
	2009, Oct. 28, 1 male
	2009 Oct. 28, 1 female
	2010, Mar. 21, 1 male

Table 4. Adult ***Doryodes latistriga*** capture dates.

Fig. 8. Example of one of the light traps used on field trips across Louisiana

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CARR CANYON, MADERA CANYON AND THE DESERT OF ARIZONA IN OCTOBER

BY

KELLY RICHERS

When speaking with butterfly collectors, after a certain level of sophistication is reached by them, they are often heading out to locate a specific target species. We moth collectors, on the other hand, are often merely going to a new area to seek whatever might be flying. This more scattered approach often turns up interesting species not suspected or known to be in an area. Since there are so many moths and less is known of them in many cases, the trips are often exciting for what might be seen or caught.

However, I learned of the possibility of catching two target species within possible proximity to each other, and determined to make a flying trip to Arizona to see if I could locate them. Having been informed by my local Arizona contact, Dave Marsden, about the noctuid *Plagiomimicus olvello*, a local moth flying northeast of Sierra Vista on the road to Tombstone, and knowing that the butterfly *Neophasia terlooii* might be flying either in Carr Canyon or Madera Canyon, I was ready to go.

Being a bear of very little brain, I calculated the distances and determined that I could set traps in Carr Canyon, southwest of Sierra Vista, for unknown moths that might be flying, and still set traps for *Plagiomimicus olvello* out in the desert on one night. I could then pick the traps up, sort them roughly, and get to Madera Canyon a couple of hours away the next day to look for *Neophasia terlooii*. Then I could trap Madera top and bottom the second night.

This plan looked great on paper. In reality, it worked rather poorly, of course, because I am an idiot and did not consider all the variables, such as sorting moths, packing traps, and the fact that it would be a weekend with many people around those popular areas.

Picking up my unsuspecting crony Martin Lonza at five in the morning on October 16th, we headed from Bakersfield to Arizona. The trip took roughly 10 hours, which put us just north of Sierra Vista at 3 p.m., just as planned. We ventured down Route 82, just south of Whetstone, east about ten miles looking for a likely spot Dave had indicated, and found a couple of possibilities for traps. We then headed back through Sierra Vista, checked in at a motel and headed to Carr Canyon to set traps for the evening.

This became the first variable that possibly I had not given enough thought to. We had 10 traps, and planned to set two in the desert, 4 in lower Carr Canyon and 4 in upper Carr Canyon. However, for some reason, the canyon road, normally relatively devoid of people, was a busy place, with hikers wandering all over. Therefore, it took a longer time than expected to set even two traps, which were all we could set in remote enough places away from casual visitors.

Then, the drive to the upper canyon took longer than expected. The road, only about five miles in length, normally takes about 30 minutes at a rousing 10 miles per hour, but with all the hikers and (believe it or not) two seater sports cars, it took almost an hour. Darkness was settling in. There was also the fact that maybe, just maybe, I had not taken into account the earlier sunsets in October.

Regardless, by the time we found six locations without too many people around at the top of Carr Canyon where we could set traps, it was getting dark. People were everywhere I initially intended to set traps. And, it was probably over an hour to get back to set the traps on the road (Rt 82) to Tombstone. In fact, it was an hour and a half.

Carr Canyon, Arizona (October, 2020)

We finally set the last two traps in the desert off the road over a hill by eight p.m., well after dark. After getting some dinner at a local restaurant, we crashed at the motel.

The next morning we were up at five thirty and picked up the traps in the desert first. No *Plagiomimicus olvello* to be seen, after a quick sort. Not much in the way of anything interesting, as far as could be told, except one saturnid, *Agapema anona* but we still had the long trip (longer than originally anticipated) to get the

traps in Carr Canyon. However, *Agapema anona* was a new species for me, so the desert traps were successful, as far as I was concerned.

Fortunately, none of the traps had been molested in any way, although the hikers and drivers were in strong evidence again. At the top of Carr Canyon, we stopped at a picnic area and I sorted the moths there. Nothing amazing as far as I could see. However, by the time we left the top of Carr Canyon it was almost 11 a.m., and the trip to Madera was still ahead of us.

Carr Canyon, Arizona (October 2020)

Since I had been told by those who know that *terlooii* flew between eleven and one in the daytime, we were pushing it to get there, but still didn't arrive until it was already one thirty. Hiking dutifully up the canyon, we looked around and found, across the next hour and a half, two of them flying in the steep stream bed, but were unable to catch either one. We finally retreated to the truck in defeat, but knowing that they were in the canyon.

In the meantime, I had noticed that Carr Canyon, the desert road to Tombstone, and Madera Canyon were unusually dry. It appears that the monsoons were extremely weak this year in Arizona, and that also probably contributed to the rather mundane looking catches from Carr Canyon and the desert. That would be another of the variables that I should have checked but didn't, so I was scoring pretty low on the smartness indicator as far as planning this trip. However, any moth collecting trip is better than none!

From five to six thirty we located places for nine traps in Madera Canyon. One battery had given up the ghost, so we had nine to work with. We set six above the 4700' elevation line, demarking Santa Cruz County, and three below, in Pima County. This elevation level of the county line is just below the lodges (Santa Rita Lodge is just in Santa Cruz County) and little cabins in the canyon, for those who need to know such things. Theoretically there could be some *Catocala* moths in the lower traps. There was only one, as it turned out the next morning.

We retreated to a Motel 6 in Green Valley, had a nice dinner at a restaurant we found while driving around, and went to bed thoroughly worn out again.

Now, when I say worn out, keep in mind that we had brought numerous beverages along with us to enjoy in the evening, including a mixer and several bottles of, shall we say, stuff to drink. We never even took them into the room. Must be getting old.

When we collected the traps the next morning, we discovered many moths in each and every trap. However, they were all apparently only a few species of *Euxoa* and other dull brown moths, for the most part, and did not look particularly exciting. There were also thousands of *Stamnodes seiferti*, a geometrid that looked so much like some others I had collected it took me until later to recognize that it was new to my collection. Another very local moth that only flies in the late fall in AZ.

This would prove to be the case with many of the moths that I identified. There was the *Apogema anona* in the material from the desert, which was new to me. This also occurs in New Mexico and Texas, but it was new to me and very striking in appearance.

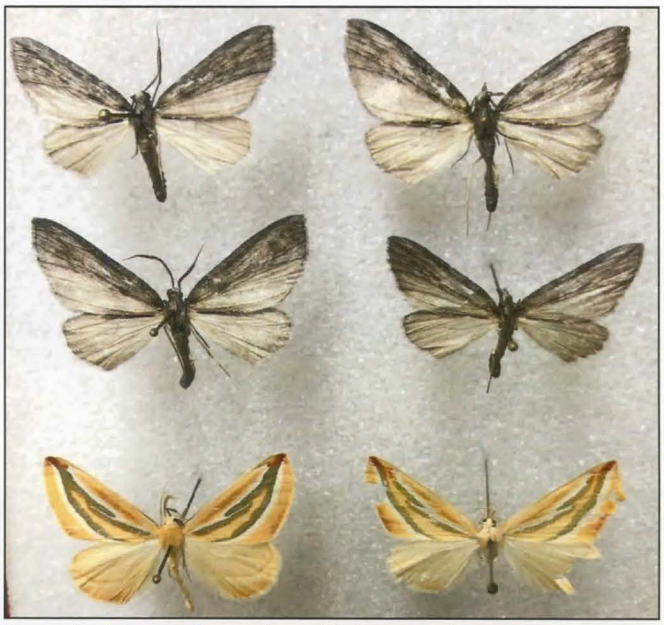
As I began to sort and spread the moths when I got home, the ordinary became less ordinary as I began to identify the moths. There were fresh *Euxoa medialis*. *Euxoa sculptilis* was represented by dozens of specimens. A very unusual looking geometrid, *Grossbeckia semimaculata*, was also flying and several were caught. This moth looks like a pyralid *Catobrosis* when sitting, as it folds half the forewing under and it is only seen when spread. *Dichorda rectaria* was present, and fresh specimens, so there is either a long brood or a second one in the fall.

Some of the moths taken will take some time to identify, as the *Euxoa* moths are difficult and the museums are closed, but other than the fact that that there were no "target" species taken, the trip was very successful. However, another day would have allowed us to take the butterfly, as Dave Marsden took three pairs the day after we left Madera Canyon.

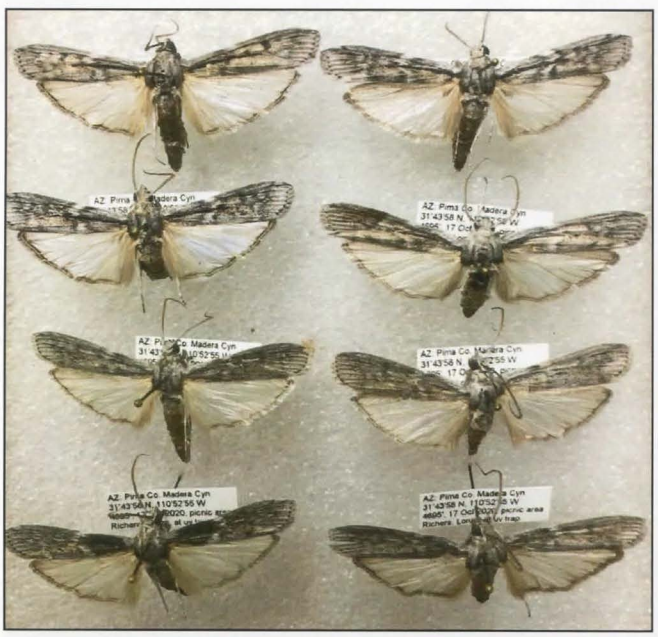
I do not have photos of the desert, as all I can say is that mile 63 is where we stopped. It did not appear any different to me than the previous ten miles, but further exploration might lead me to be setting traps nearer the correct foodplant of *Plagiomimicus olvello*. I have a picture of the foodplant, but unfortunately, most desert

plants look all too similar to one another to me. Another area where I need much more eductation. I'm more comfortable in the eastern deciduous forests where the poison ivy grows. And having previously sent photos of Madera Canyon, they would be repetitive also. So obviously we tried to do too much in too little time, and next year, when I try to redo this experiment in some form, we will give an extra day and maybe go a week earlier, to catch the seasonal moths better.

Euxoa sculptilis, Apantesis incorrupta, Lithophane ponderosa

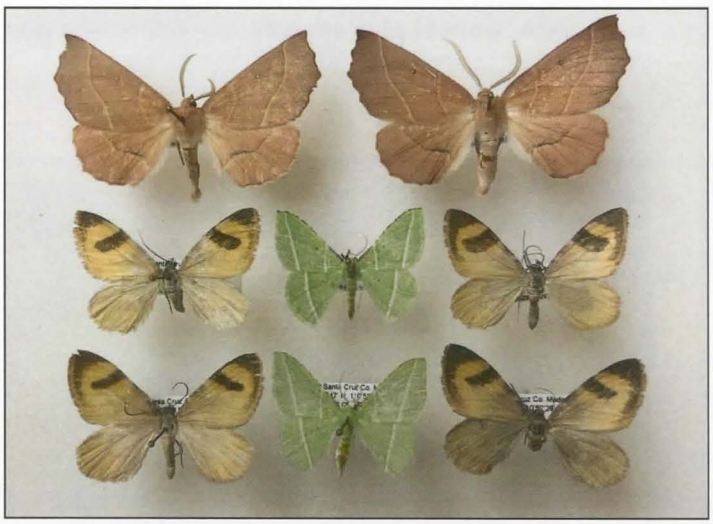


Grossbeckia semimaculata, Melemaea virgata

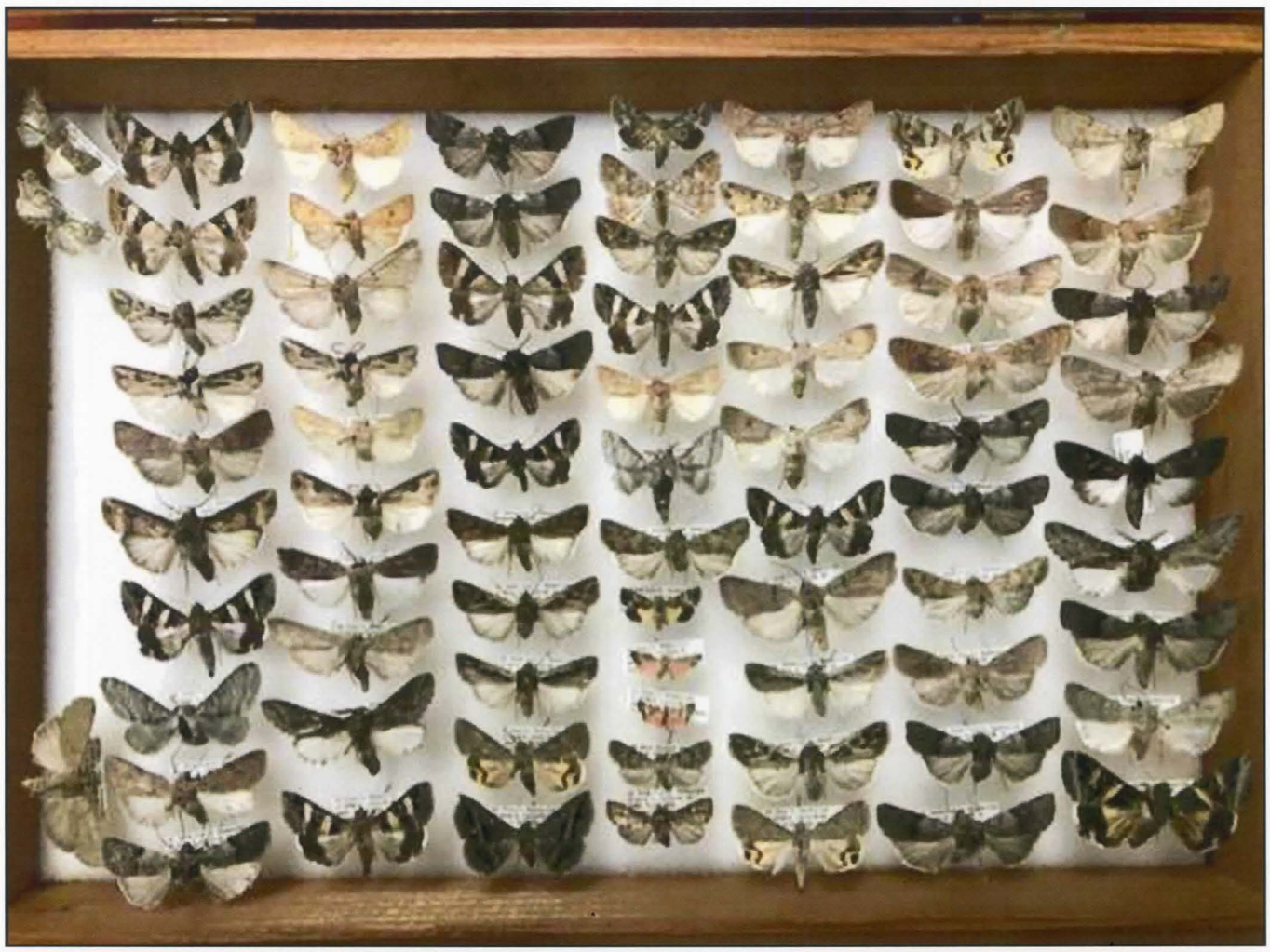


***Catobrosis fernaldialis* or near**

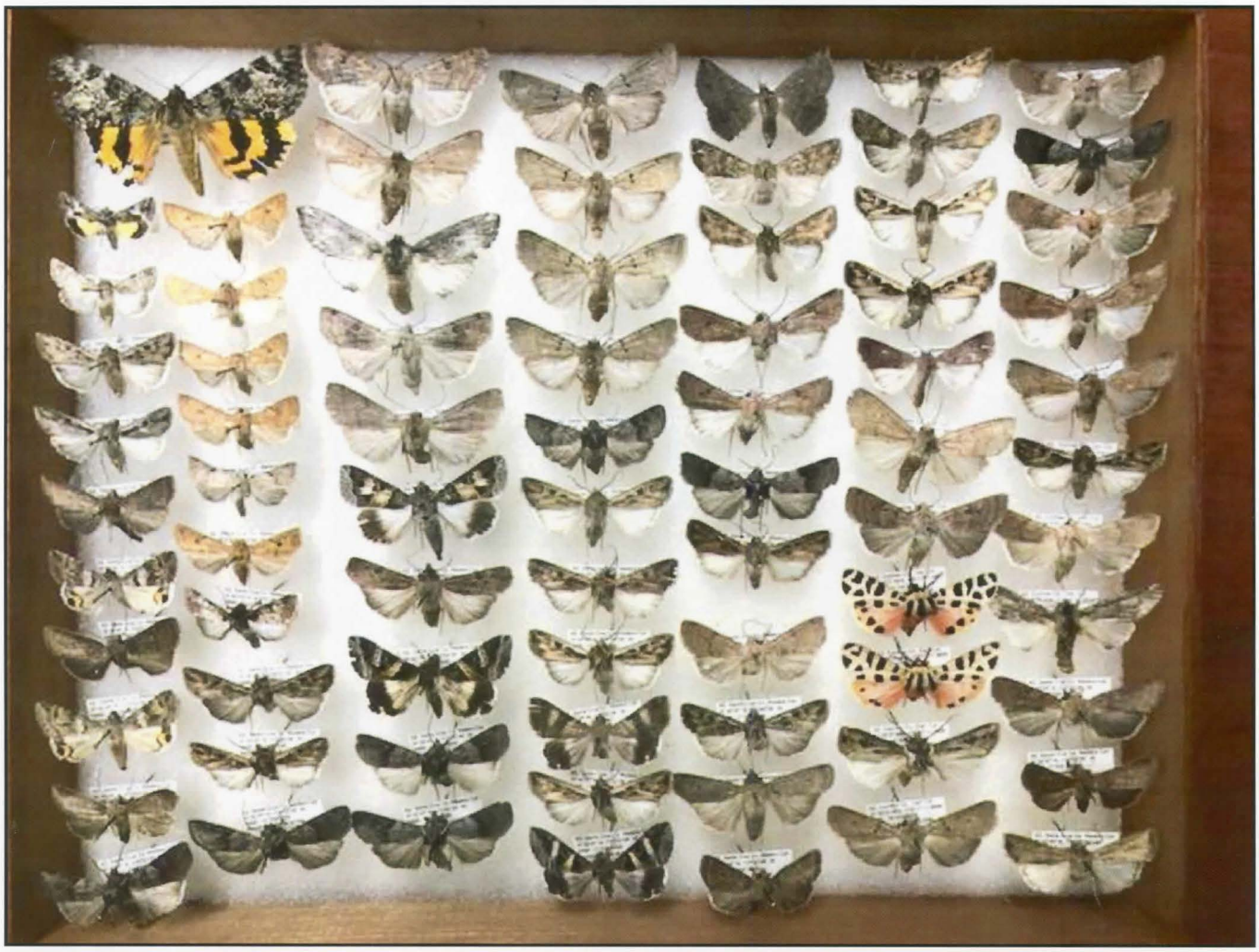
Glens grisearia, Agapema ancona



Caripeta ocellaria
Stamnodes seiferti
Dichorda rectaria



Carr Canyon, Arizona (October, 2020), Noctuids



Madera Canyon noctuidae

The lone *Catocala* from lower Madera Canyon

Carr Canyon, Arizona (October, 2020), Micros

Carr Canyon, Arizona, from 7000 ft (July 28, 2017). Looking down on Sierra Vista and the desert some 3000 ft lower than the top of Carr Canyon.

(Kelly Richers, E-Mail: kericherswuesd.org)

BUGLADY'S HONEY ISLAND SWAMP ADVENTURE

BY

LINDA BARBER AULD

The very first documented nationwide butterfly survey of North America, fashioned after the Audubon bird count but focused on butterflies, began in 1975. The First Annual Xerces Society Fourth of July Butterfly Count had begun! Frank Fischer, Jr. (known to everyone as Phil) a birding naturalist at heart, decided to start hunting the Pearl River Wildlife Management Area butterfly population. Phil's hand-written list dated July 4, 1975, was submitted with totals of 149 individuals which included 19 species. These surveys report fluctuations of numbers and species to help us better understand and monitor the environment and its delicate ecosystems. The 45 years of compiled survey data provide information that has been used for many different scientific studies. The process of filing completed forms has changed through the years from submitting handwritten reports to now online posting; however, some things have not changed—the thirst for more nature experiences and the desire to share the knowledge.

On Saturday, September 12, abiding by the Covid-19 rules of social distancing and caravanning, our group met at the front gate eager to explore the trails to see what we could find. The participants list included my two regular trail buddies, Diane Lafferty of Hattiesburg and Mark Ellermann of Slidell, along with three LA Master Naturalists, Stephanie Gross, Michele Mire and Kelly Guilbeau. This is the ladies' first butterfly count plus their first visit to Honey Island Swamp. Also

A beautiful day at Honey Island (Photo by Linda Auld)

joining us are Laine Farber, *The Nature Nerd*, with her friend, Vincent Ngo. We began searching the flowers mingled in the tall grass to spot skippers. Luckily, no mowing had been done so the *Verbena ridgida*, bidens, and morning glory vines growing along the roadsides and in the open meadow were inviting 15 species of hungry butterflies to sip a nectar snack. The population of Ocola, also called the Long-winged Skipper, explodes this time of year and they can be seen in great numbers. "What are these called?" asked Michele. "That's a Clouded Skipper and this one is a Whirlabout! Their caterpillars both eat grasses," I replied. A Gulf Fritillary was catching some sun while perched atop the Johnson grass stalk. The males are bright orange but the females are more dull orange and they are always busy tasting leaves to find their passion flower vine caterpillar host.

Gulf Fritillary caterpillar on Passion Flower vine (Photo by Linda Auld)

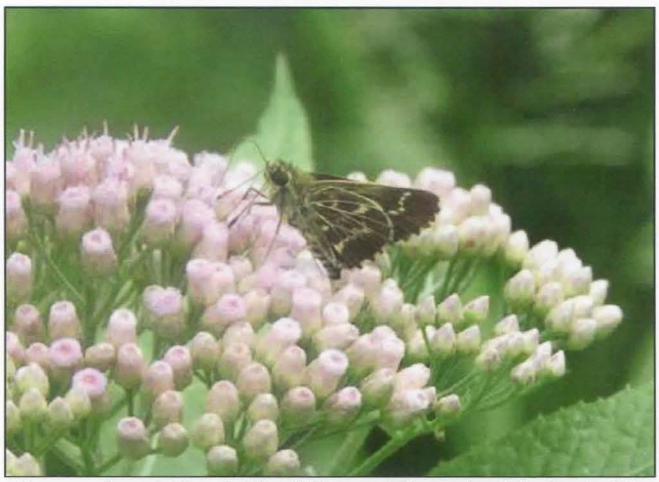
Gulf Fritillary butterfly (Photo by Linda Auld)

As we walked further I spied a Pearl Crescent flitting about the ditch where a patch of water primrose, *Ludwigia*, was covered in yellow flowers. As we walked along the tree line I noticed the roughleaf dogwood was laden with berries for the birds to eat. Mark chased down a rough green snake and held it so we all could take photos plus ooh and aah over it. Across the meadow a couple of Cloudless Sulphur butterflies were swirling around the *Cassia obtusifolia* plants growing at

the base of the levee. We watched the Cloudless Sulphur lay several eggs down in the leaf folds and upon closer inspection counted three tiny caterpillars that appeared to be freshly hatched.

Mark Ellermann handling a Rough Green Snake (Photo by Linda Auld)

With lots more territory to cover we drove to the next stop at the boat ramp. On one side of old Hwy.11 is a circular parking lot rimmed with a variety of blooming wildflowers. A beautiful Lace-winged Roadside-Skipper was posed on a St. John's-wort (*Hypericum*) flower. While attempting a photo, Mark called out, "Linda, it's a Pearly Eye!" Due to its sporadic flights, we weren't able to see it long enough to confirm if it was a



Lace-winged Roadside-Skipper (Photo by Linda Auld)

Northern, Southern, or Creole so listed it under "Unidentified Pearly Eye species". Nearby along the trail a pretty aquatic milkweed (*Asclepias perennis*) was in bloom alongside striking cardinal flowers (*Lobelia cardinalis*). In the trail's high grass, Mark caught another rough green snake but a baby one this time that Laine asked permission to briefly hold before returning it where he'd found it. As we walked further, we heard the red-bellied woodpecker calling as we watched a pair of Carolina Satyrs bobbing along the weedy assortment and toads hopping over to a hiding spot under a fallen log.

A Fowler's Toad (*Bufo fowler*) camouflaged among the rocks (Photo by Linda Auld)

Carolina Satyr, the most-seen butterfly of the day (Photo by Diane Lafferty)

The next stop was the trail lined with willow trees where we usually see Viceroy butterflies. Today we discovered an exciting patch of blooming pluchea (also called Stinkweed, Marsh fleabane or Shrubby Camphorweed) that was the pollinator central jackpot! Bees, wasps, flies, butterflies and skippers were all taking turns fueling up on the pink flowers. Lace-winged Roadside-Skipper joined by Yehl, Little Glassywing, and Tawny-Edge skippers were probing for nectar next to colorful syrphid flies that mimic wasps. Across the road in the open meadow Mark caught a pretty ribbon snake and showed it to us then released it. Stephanie, a mycologist, helped us identify many of the mysterious mushrooms sprouted from all of the recent rains. A number of large painted lubber grasshoppers were jumping around and eating assorted plants. The beautiful white buttonbush flowers were attracting an array of bees and wasps.

A syrphid fly that mimics a wasp (Photo by Linda Auld)

Mark Ellermann handling a ribbon snake (Photo by Linda Auld)

Stephanie Gross teaching us a bit about mushrooms (Photo by Linda Auld)

A golden web orb weaver (Photo by Linda Auld)

Next was the Nature Trail area where we discovered a large stand of desmodium also known as tick-trefoil, tick clover, or beggar's lice because its seeds stick to your clothes. It is also the host for Long-tailed Skipper caterpillars! During butterfly counts, not only do we count the adult butterflies we see flying around but we also document the immature stages. I showed everyone how to look for the sewn-leaf shelters the caterpillars create as their safe haven. Some of the caterpillars are tiny and some are larger. As they look up at us, their little faces with an orange dot on each cheek are just adorable. Some shelters were empty or filled by the next resident–a spider! Yes, the food chain has been in action. Next I spied sewn leaves atop a tiny oak tree with tender leaves and when I opened it up, I saw a fat Horace Duskywing caterpillar. Both Common Checkered and Tropical Checkered Skippers were maneuvering around the *Sida rhombifolia*, their caterpillar host, when Kelly asked, "How do you tell the difference?" Diane pulled out what she calls her 'cheat sheet' reference guide that showcases her excellent skipper pictures. "A picture is worth a thousand words!" she explained. "Look at the pictures side by side and you can see that the Tropical Checkered Skippers have a large round white spot in the top side of the forewing that the Common Checkered does not have. They can be confusing!"

Horace Duskwing caterpillar on Oak (Photo by Linda Auld)

Horace Duskywing (Photo by Linda Auld)

We crossed Highway 11 again and stopped at the corner we call 'the skipper patch' where we usually see a collection of insects on the verbena, bidens, and morning glory flower mixture. We waded in the tall grass to view another pollinator bonanza as we attempted to count the wildly active medley of critters flitting about the area. Five Long-tailed Skippers happily zipped about and visited the blossoms as their green wings shimmered in the sunlight. Kelly was surprised to discover almost a dozen wild hog skulls under the oak tree. As she picked up one, a black dung beetle began lumbering around the ground. Kelly then allowed me to take a picture of her holding the skull next to her head for a size comparison as she pretended to send it a kiss! Priceless! Wild hogs are regularly hunted at Honey Island because they are so numerous and very destructive to the environment. Finally, the first swallowtail of the day is sighted and it's a dark phase female Tiger!

Kelly Guilbeau loving nature (Photo by Linda Auld)

Next we headed for the shooting range to hopefully see a Giant Swallowtail. The trifoliate orange (*Citrus trifoliata* or *Poncirus trifoliata*) growing around that area attracts females to lay their eggs. BINGO! Diane spotted a male puddling on the wet spots of the rocky parking lot. It's tradition that our counting group takes a photo at the base of the giant Live Oak that we've named, "The Yoda Tree" because it just looks like a place where Yoda would live.

The last stop is the railroad track across Interstate 59 where several new species for the day can usually be added to the list due to the ravine smorgasbord packed with butterfly nectar and caterpillar host plants. As soon as we pulled up, we could see activity buzzing! About

A Giant Swallowtail 'puddling' collecting nutrients from the soil (Photo by Diane Lafferty)

Yoda Tree: Kelly Guilbeau, Linda Barber Auld, Mark Ellermann, Stephanie Gross (Photo by Diane Lafferty)

a dozen Ocola mixed with Clouded, Fiery and Whirlabout Skippers plus a Buckeye were collecting nectar on the bidens flowers. Diane called out, "Monarch!" We climbed down the steep incline to take a closer look and also found a Viceroy. The three main species of Sulphur butterflies (Cloudless, Sleepy Orange and Little Yellow) were searching for cassia plants to lay their eggs. A Sleepy Orange was investigating the stand of sicklepod (*Cassia obtusifolia*) and next to it we found a massive passion flower vine (*Passiflora incarnata*) sporting beautiful blooms all along the stems. At least a dozen bright orange Gulf Fritillary caterpillars in varying sizes were consuming the leaves. These caterpillars' barbs make predators think they could sting, but they don't.

The last Honey Island treasure hunt for year 2020 yielded 211 individuals and 28 species. Words cannot adequately describe the raw beauty of the Louisiana swamp. You must explore and experience it yourself. Each visit is an adventure because you never know what

you will find. Something beautiful and interesting always crosses our path. Stay curious!

Count results: Giant Swallowtail-2, Tiger Swallowtail-2, Common Buckeye-5, Gulf Fritillary-10, Monarch-1, Pearl Crescent-17, Red Admiral-2, Red-spotted Purple-2, Viceroy-1, Cloudless Sulphur-14, Little Sulphur-7, Sleepy Orange-2, Carolina Satyr-49, Unidentified Pearly-Eye-2, Clouded Skipper-8, Common Checkered Skipper-7, Dun Skipper-6, Fiery Skipper-5, Horace Duskywing-2, Lace-winged Roadside-Skipper-5, Little Glassywing-1, Long-tailed Skipper-8, Ocola-37, Southern Broken Dash-2, Tawny-edge Skipper-1, Tropical Checkered- 5, Whirlabout-7, Yehl-1. Total: 211 individuals/28 species.

(Contact Linda: nolabuglady@gmail.com; Website: www.nolabuglady.com)

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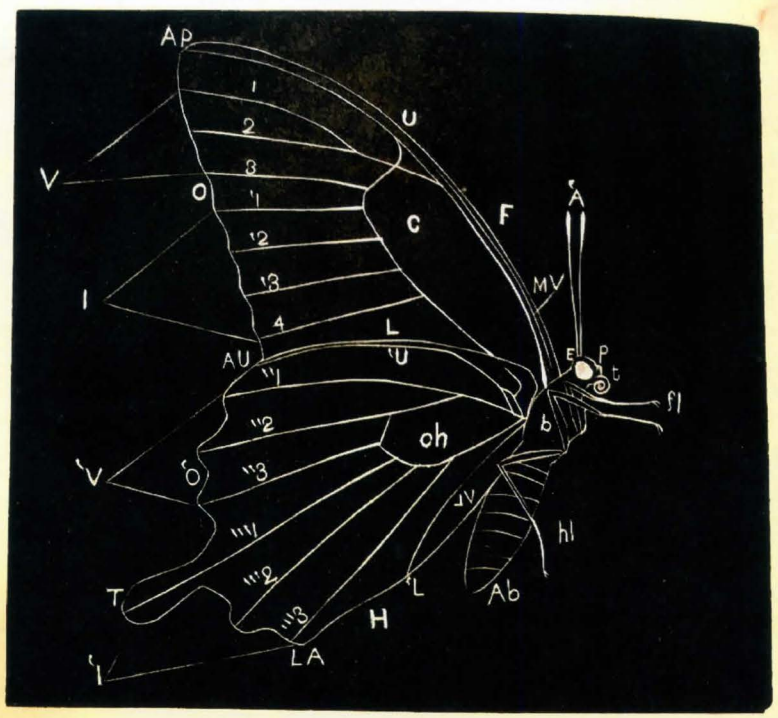
iv INTRODUCTION.

DIAGRAM SHOWING PARTS OF A BUTTERFLY.



EXPLANATION OF FIGURE.

PAPILIO CRESPHONTES.

F, fore wing; H, hind wing; A, antennae; E, eye; P, palpi; t, tongue; fl, fore leg; hl, hind legs; b, body; Ab, abdomen; U, upper border fore wing; Ap, apex; O, outer border; L, lower border; V, upper vein; 1, 2, 3, its branches; I, lower vein; '1, '2, '3, its branches; C, central cell; Mv, marginal vein; 'U, upper border hind wing, 'O, outer border; 'L lower border; LA, inner angle; AU, upper angle; M V., marginal vein; 'V, upper vein; "1, "2, "3, its branches: I', middle vein; "'1, "'2, "'3, its branches; LV, lower vein; ch, central cell; T, tail.

Manual of North American Butterflies by Charles J. Maynard, Illustrated with Ten Hand-Colored Plates, and Many Wood-Cuts, Boston: De Wolfe, Fiske & Co. 1891

REPORTS OF STATE COORDINATORS

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

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

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

Florida report, summer 2020

Sept. 1 – Nov. 24, 2020

The following butterfly species were recorded in Gainesville, Alachua Co., FL, September 1 through November 24, 2020. This period was characterized by slightly decreased daily high temperatures and above normal rainfall. Butterfly numbers were higher in the fall months than noted for spring and summer. *Anartia jatrophae* was more common than usual in the Gainesville areas surveyed.

Urbanus proteus, Sept. 1, Oct. 13, 17, 24, 29, Nov. 6, 14
Heliconius charithonia, Sept. 2, 3, 5, 10, 11, 12, 13, 15, 21, 30, Oct. 11, 13, 14, 17, 18, 21, 22, 24, 28, 29, Nov. 4, 5, 6, 10, 13
Erynnis horatius, Sept. 3,
Hylephila phyleus, Sept. 3, 8, 12, 22, 26, Oct. 6, 10, 13, 31, Nov. 14, 24
Papilio troilus, Sept. 3,
Phoebis sennae, Sept. 3, 5, 8, 12, 21, 22, 26, Oct, 3, 6, 10, 11, 13, 17, 22, 24, 25, 29, 31, Nov. 5, 6, 7, 14, 21, 24, 26
Phoebis agarithe, Sept 3, 8
Eurema daira, Sept 3, 8, Oct. 6, 13, Nov. 7
Pyrisitia lisa, Sept.3, Oct. 3, 6, 10, 13, 17, 21, 22, 24, 31, Nov. 7, 10, 14, 21, 24
Abaeis nicippe, Sept. 3, 13, Oct. 22, 24, Nov. 14
Agraulis vanillae, Sept. 3, 8, 10, 11, 12, 21, 22, 26, Oct. 3, 6, 10, 13, 17, 18, 22, 24, 25, 26, 29, Nov. 4, 5, 6, 7, 14, 21, 24
Heraclides cresphontes, Sept. 4, Oct. 13
Leptotes cassius, Sept. 5, Oct. 26
Papilio palamedes, Sept. 8
Phoebis philea, Sept. 9, Oct. 6, 22, 24, 28, 29, Nov. 14, 24
Danaus plexippus, Sept. 10, 19, 22, Oct. 7, 31, Nov. 5, 13
Battus philenor, Sept. 12
Asterocampa celtis, Sept. 19, 22, 26, Oct. 6
Junonia coenia, Sept. 22, Oct. 3, 6, 10, 13, 17, 22, 29, 31, Nov. 7, 10, 14, 21, 24
Zerene cesonia, Oct. 6
Danaus gilippus, Oct. 10, 17
Anartia jatrophae, Oct. 13, 22 (numerous), 28, 29, 31 (several), Nov. 7, 14, 18 (reported by Warren Nielson), 24
Urbanus dorantes, Nov. 5
Papilio glaucus, Nov. 6
Panoquina ocola, Nov. 13
Phyciodes tharos, Nov. 24
Phyciodes phaon, Nov. 24

Moths:

Enyo lugubris (Sphingidae), Oct. 1
Eacles imperialis (Saturniidae), Sept. 13 (reported by Joanne Auth from Gainesville)

Again I urge those who live or visit in Florida to send me records and observations for any time of year. My email address is ccovell@flmnh.ufl.edu. Thanks. Cheers, Charlie

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

James sends in the following 4th summary for 2020.

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 uncommon species, county records, and records for new locations. All records are 2020 unless otherwise specified.

The most remarkable records are two different sightings (see images on pg. 365) of male *Hypolimnas misippus*.

Cooper's Creek WMA, Fannin and Union Co., Sept. 5, with Patrick Adams:
NYMPHALIDAE: *Speyeria diana* (females), *Lethe* (*Satyrodes*) *appalachia*.

Dalton, field SW of junction of north bypass (hwy. 76) and Chattanooga road, Oct. 7, Neeley Keeton:
HESPERIIDAE: *Calpodes ethlius* (COUNTY).

Rocky Face ridgeline, just W of Dalton at crest of Dug Gap Battle Rd., Whitfield Co:
Sept. 3-4:
GEOMETRIDAE: *Stenoporpia polygrammaria*. **SPHINGIDAE:** *Agrius cingulatus*. **NOCTUIDAE:** *Acronicta interrupta, Plagiomimicus pityochromus, Stiria rugrifrons, Schinia nundina, Emarginea percara, Mesapamea fractilinea, Papaipema nebris, P. rutila, P. arctivorens, Dypterygia rozmani* (LATE).
Sept. 12-13:
NOCTUIDAE: *Amyna bullula, Cirrhophanus triangulifer, Callopistria floridensis, Schinia nundina, Emarginea percara, Papaipema nebris, Meropleon titan* (3), *Properigia near costa, Magusa divaricata, Dichagyris grotei*.
Oct. 8-9:
CRAMBIDAE: *Syngamia florella*. **GEOMETRIDAE**: *Cymatophora approximaria, Ennomos magnaria*. **EREBIDAE:** *Catocala nebulosa, C. robinsonii*. **NOCTUIDAE:** *Argyrogramma verruca, Amyna bullula, A. stricta, Mesapamea fractillinea, Papaipema marginidens, P. nebris*.
Oct. 21-22:
NOCTUIDAE: *Amyna bullula, A. stricta, Callopistria floridensis, Schinia arcigera* (LATE), *Elaphria nucicolora* (COUNTY, far north), *Spodoptera latifascia, Papaipema cataphracta*.
Nov. 9-10:
EREBIDAE: Anomis flava. **NOCTUIDAE**: *Amyna stricta, Elaphria nucicolora, Spodoptera latifascia, Chaetaglaea rhonda* (COUNTY), *Xylotype capax*.

Taylor's Ridge, S of Hwy. 136, Walker Co.:
Sept. 10-11:
EREBIDAE: *Grammia virgo, Catocala habilis, C. luctuosa* (5), *C. robinsonii* (3, one "missouriensis). **NOCTUIDAE:** *Stiria rugifrons, Basilodes pepita, Schinia grandimedia*.
Sept. 18-19:
EREBIDAE: *Catocala habilis, C. luctuosa, C. robinsonii*.
Oct. 11-12:
CRAMBIDAE: *Condylorrhiza vestigialis Diaphania hyalinata*, **EREBIDAE**: *Catocala ilia* (late), *C. luctuosa* (4), *C. robinsonii* (10, 4 "missouriensis"). **NOCTUIDAE**: *Heliocheilus lupatus* (LATE), *Papaipema marginidens* (11), *P. polymniae, P. furcata, Platypolia mactata*.
Oct. 22-23:
DREPANIDAE: *Euthyatira cyamatophoroides*. **EREBIDAE**: *Catocala robinsonii*. **NOCTUIDAE:** *Papaipema marginidens, Platypolia mactata, Anathix ralla*.
Nov. 7-8:
NOCTUIDAE: *Platypolia mactata*.
Nov. 21, N of Hwy. 136:
SATURNIIDAE: *Hemileuca maia*, 10-15 individuals.

Crockford-Pigeon Mountain WMA, 9 mi. WSW of LaFayette, Walker Co., Sept. 13:
LYCAENIDAE: *Parhassius m-album*. **EREBIDAE**: *Lycomorpha pholus* (abundant).

Calhoun, Gordon Co., third week in October, 2020:
SESIIDAE: *Podosesia syringae*, at pheromone (LATE).

Salacoa Road at Salacoa Creek, 5 miles ESE of Fairmount, Bartow Co., Sept. 6:
HESPERIIDAE: *Burnsius oileus* (COUNTY, farthest north in the state so far), *Copaeodes minima* (2, COUNTY).
LYCAENIDAE: *Parhassius m-album*.

Along Little River, Cherokee Co., Oct. 10, Vicki DeLoach:
NYMPHALIDAE: *Heliconius charitonia* (only second time seen in this county, in same location).

Sardis, Burke Co, Nov. 5, Malcolm Jenkins:
NYMPHALIDAE: *Heliconius charitonia*.

Athens, 275 Blue Heron Dr., Clarke Co., May 31, John Pickering:
TORTRICIDAE: *Hedya chionosema* (COUNTY, rare in state).

Statesboro, Bulloch Co., Oct. 26, LD:
NOCTUIDAE: *Mouralia tinctoides* (COUNTY; see image on pg. 366).

Canoochee Pitcher Plant Bog, Tattnall Co., Nov. 7, LD and Anna Yellin:
NOCTUIDAE: *Photedes carterae* (COUNTY, second location in STATE; see images on pg. 365).

Alligator Creek WMA, 2 miles N of Lumber City, Wheeler Co.:

As indicated in the last report, this is our first year sampling here, so many records are likely county records.

September 14-15, LD:

Sandhills sites:

GEOMETRIDAE: *Scopula timandrata, Idaea ostentaria, Cyclophora culicaria, Nemoria outina, Fernaldella georgiana, Hypomecis bucholzaria.* **NOLIDAE**: *Afrida ydatodes.* **NOCTUIDAE**: *Schinia nundina, S. fulleri, S. sordidus, S. scissoides, S. psamathea, S. lynx, S. siren.*

Cypress/edge habitats:

PSYCHIDAE: *Basicladus tracyi, Astala confederata.* **GEOMETRIDAE**: *Idaea ostentaria, Scopula lautaria,* Nemoria outina, N. catachloa. **SPHINGIDAE**: *Isoparce cupressi.* **NOTODONTIDAE: EREBIDAE**: *Simplicia cornicalis Phytometra ernestinana.* **NOCTUIDAE**: *Bagisara repanda, B. brouana, Schinia gracilenta.*

September 24-27, Lance Durden, Jeff Slotten and JKA:

Sandhills sites:

TORTRICIDAE: *Eucosma litorea, Pelochrista quinquemaculana.* **PYRALIDAE**: *Basacallis tarachodes.* **GEOMETRIDAE**: *Idaea ostentaria, Scopula aemulata, Lobocleta peralbata, Cyclophora culicaria, Fernaldella georgiana, Tornos scolopacinarius.* **NOTODONTIDAE**: *Datana ranaeceps.* EREBIDAE: *Simplicia cornicalis, Apantesis placentia, Phytometra ernestinana, Melipotis fasciolaris.* **NOLIDAE**: *Diphthera festiva.* **NOCTUIDAE**: *Cucullia alfarata, Callopistria granitosa, Schinia nundina, S. psamathea, S. petulans, S. scissoides, S. sordidus, S. tuberculum, S. siren, S. fulleri, S. nubila, S. gracilenta, Spodoptera albula* (STATE), *Sideridis ruisa, Dypterygia patina,*

Cypress/Edge sites:

CRAMBIDAE: *Condylorrhiza vestigialis.* **SATURNIIDAE**: *Callosamia securifera.* **NOTODONTIDAE**: *Symmerista* sp. **EREBIDAE**: *Gabara* sp., *Phytometra ernestinana, Lesmone hinna.* **NOCTUIDAE**: *Cucullia alfarata, Schinia psamathea, S. tuberculum, S. arcigera, Spodoptera albula, Sideridis ruisa, Dypterygia patina.*

Forest/Edge habitats:

CRAMBIDAE: *Condylorrhiza vestigialis.* **GEOMETRIDAE**: *Leptostales laevitaria, Eubaphe meridiana.* **NOTODONTIDAE**: *Ianassa lignicolor.* **EREBIDAE**: *Simplicia cornicalis, Catocala maestosa.* **NOLIDAE**: *Diphthera festiva.* **NOCTUIDAE**: *Schinia scissoides, Spodoptera albula.*

Kittles Island, McIntosh Co., Nov. 22-23, JH:
NOCTUIDAE: *Papaipema duovata*.

Fort Pulaski, Cockspur Island, Savannah, Chatham Co., Nov. 13, Jan Hansen:
NYMPHALIDAE: *Hypolimnas misippus* (female; see image on pg. 365).

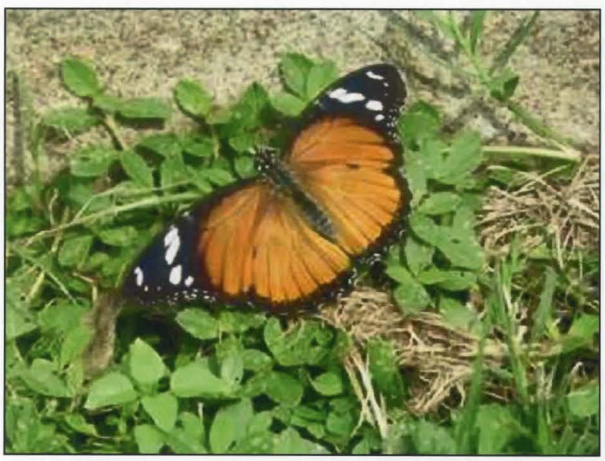
Florabundance nursery, near Meridian, McIntosh Co., Sept. 13, Deborah Shepard:
NYMPHALIDAE: *Hypolimnas misippus* (male; see image on pg. 365).

Little St. Simon's Island, Glynn Co., Oct. 13, Kate Tweedy:
NYMPHALIDAE: *Hypolimnas misippus* (male; see image on pg. 365).

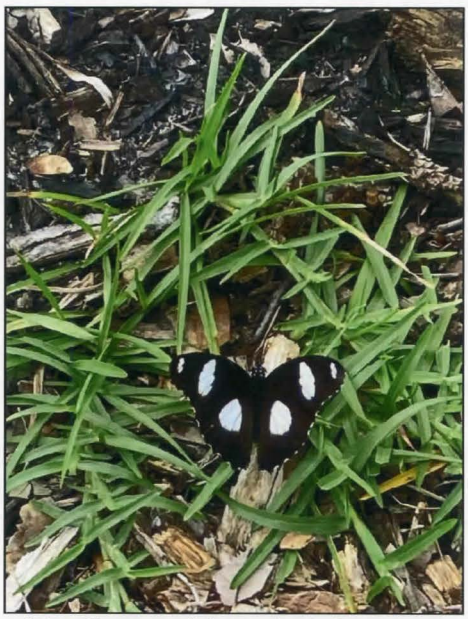
Brunswick, Glynn Co., Nov. 16, Mike Chapman:
NOCTUIDAE: *Protorthodes oviduca* (COUNTY).

Canoochee Pitcher Plant Bog, *Photedes carterae* on tree (November 7, 2020)(Photo by Anna Yellin)

Canoochee Pitcher Plant Bog, *Photedes carterae* (November 7, 2020)(Photo by Lance Durden)



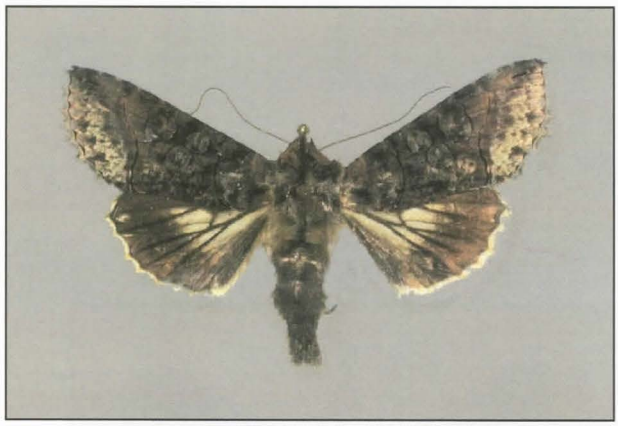
***Hypolimnas misippus* (♀), Fort Pulaski, Cockspur Island, Savannah, Chatham Co. (November 13, 2020)(Photo by Jan Hansen)**



***Hypolimnas misippus* (♂), McIntosh Co. (September 13, 2020) (Photo by Deborah Shepard)**

***Hypolimnas misippus* (♂) (underside), Little St Simon's Island, Glynn Co. (October 13, 2020)(Photo by Kate Tweedy)**

***Hypolinmas misippus* (♂), Little St Simon's Island , Glynn Co. (October 13, 2020) (Photo by Kate Tweedy)**



***Mouralia tinctoides*, Statesbora Bulloch Co.**
(October 26, 2020)
(Photo by Lance Durden)

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

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

Ricky sends in the following report.:

> 5 September 2020, *Euphyes dion*, 3 miles west of Calhoun City, Calhoun county, MS, in sedges near marshy area.
>
> 1 October 2020, *Calpodes ethlius* pupa found, adult emerged 7 October, Vicksburg, Warren county, MS, on *Canna* sp.
>
> 21 October 2020, *Cisseps fulvicollis, Papaipema furcata, Anomis erosa, Agnorisma bolli*, at black light, Natchez Trace Parkway at Chiwapa Creek, Mile marker 253.3, Lee county, MS.

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

The following report: FALL BUTTERFLY RECORDS FOR NORTH CAROLINA – 2020, was sent in by Harry Legrand:

Records are from September through mid-November 2020, except as otherwise noted. Names in parentheses are counties; new county records are in **CAPS and bold**.

Fall 2020 was characterized by continuous adequate to good rainfall amounts, without major drought or flooding (until flooding on November 11-12); the state dodged a major hurricane this fall. September was surprisingly cool, and November was very warm for that time of year; however, in general the conditions were good for butterflies.

The main highlight of the season was a flurry of records for two very rare strays, first came a number of *Burnsius oileus* from the expected southeastern counties; and then, well into October there was a surprisingly flurry of *Heliconius charithonia*, nearly all in the Piedmont rather than in the much more expected Coastal Plain! Other migrants in better than usual numbers this year were *Pyrisitia lisa, Vanessa cardui*, and *Lerodea eufala*.

PAPILIONIDAE:
Heraclides cresphontes, the species is a stray or migrant in the Piedmont, and thus singles in Chatham County on September 5 (Holly Backstrom) and at Asheboro (Randolph) on September 4-5 (Loretta Lutman) were notable.

PIERIDAE:
Pyrisitia lisa, the good to excellent flight this summer continued into the fall, peaking with a remarkable single-observer tally 300 at the Sandhills Game Land (Richmond) by Jan Hansen on September 2.

Pontia protodice, this declining species was found three times – singles photographed at Pea Island (Dare) on October 10 by Julien McCarthy and at Hot Springs (Madison) on October 13 and on November 6 by Pete Dixon. There are surprisingly few NC records for the Coastal Plain, and thus the first report was quite amazing and was clearly a stray there.

LYCAENIDAE:

Feniseca tarquinius, the only report for the fall season was one seen by Lennie Lampel at Reedy Creek Nature Preserve (Mecklenburg) on September 23.

Atlides halesus, one at Reedy Creek Nature Preserve (Mecklenburg) on September 7, seen by Rob Gilson, was a good find for the western half of the Piedmont.

Parrhasius m-album, this scarce species was observed about five times, but all were of single individuals. The most notable was a very late one at Southern Pines (Moore), as seen by Maureen O'Halloran on November 8.

RIODINIDAE:

Calephelis virginiensis, this local species was in much smaller numbers than expected at Holly Shelter Game Land (Pender) owing to the burning of too many acres of savanna habitat at the same time in the summer months; the peak count there was only four on September 14 (Harry LeGrand et al.). Thankfully, populations were in better numbers at Stones Creek Game Land (Onslow), where eight were found on October 6 by Hunter Phillips and Mark Shields.

NYMPHALIDAE:

Danaus gilippus, there were numerous reports from the species' stronghold at Fort Fisher (New Hanover). John Taggart had a peak count there of 15 on October 27, and it was last reported by him at that site on November 4. At nearby Baldhead Island (Brunswick), Susan Andrews saw a few from October 14-18.

Heliconius charithonia, following up on the two surprising reports from the southwestern Piedmont in summer, there was a remarkable outbreak of this stray into the western half of the state, and it is clear that a small breeding population had been established in this region and in upstate South Carolina. The following reports essentially all were documented with photos: singles at Riverbend Park (**CATAWBA**) on October 12 by Lori Owenby and Dwayne Martin; at Greensboro (**GUILFORD**) on October 21 by Charlie Cameron; at Shelton Laurel (**MADISON**) on October 23 by Tom Fluharty; in Stanley (**GASTON**) on October 26 by Allison Pittman; at Mineral Springs (**UNION**) on October 26 by Lisa Tompkins; at Marshall (Madison) on October 27 by Anne Schneider; in Forsyth County on October 29 by Marilyn McDonald; at Waxhaw (Union) on October 30 by Lyla Thomas; in central Harnett County on November 7-8 by Mary Stevens; and in **SCOTLAND** on November 10 by an unnamed photographer. The two Madison County records provided the first ever for the state's mountain region.

Speyeria aphrodite, one on October 4 at Doughton Park (Alleghany) was quite late, as noted by Parker Backstrom.

Nymphalis antiopa, the only report – most come in late winter and spring – was one in John Connors' yard in downtown Raleigh (Wake) on September 28, quite shocking for an urban location!

Polygonia faunus, owing to COVID-19, travel to more distant destinations has been limited this year, mostly explaining the just one report of this species – three seen at its main stronghold in the state at Mount Mitchell State Park (Yancey), on September 7 by Rob Van Epps and Kevin Metcalf.

Vanessa cardui, there were about 48-50 state reports this fall, but nearly all were of just one or two individuals. By far the best count was six seen by Sven Halling along the Cherohala Skyway (Graham) on October 8.

Phyciodes phaon, in addition to numerous reports from their best site at Fort Fisher (New Hanover), there were a few from essentially newly reported sites. Two were notable at the New Hanover County Arboretum on October 7, seen by John Taggart. Farther up the coast, a count of three in Stones Creek Game Land (Onslow) was excellent from away from a tidal area, seen on October 8 by Hunter Phillips; and two more were seen at Sandy Run Savannas State Natural Area (Onslow) on October 21 by John Taggart, quite far "inland" for the species.

Cercyonis pegala, a count of 15 was noteworthy at Butner (Granville), seen on September 23 by Harry LeGrand and Lori Arent.

HESPERIIDAE:

Pholisora catullus, one seen by Nick Flanders in central Halifax County was very late on October 4.

Burnsius albescens, this cryptic species is rapidly moving northward into the southern parts of the state, based on collection/dissection records from much of SC and in Mecklenburg County, NC. Rob Gilson collected one at McDowell Nature Preserve (Mecklenburg) on September 21, and five more there on September 28, compared with only a few of the more expected *P. communis*. Individuals likely this species (*albescens*) were seen in a sandy area at Fort Fisher (New Hanover) on September 14 by Harry LeGrand and Lori Arent, and four at Sunset Beach (Brunswick) on October 22 by these observers. Note that many people observed the species pair in the Sandhills Game Land (Richmond and Scotland) this fall, but without collection of males for dissection, one can only speculate whether *albescens* has moved into the Sandhills and how numerous it is now. Considering that it has been collected to the west in Mecklenburg County and to the east in coastal Carteret and Brunswick counties, it is highly likely to be present now in the Sandhills, if not a bit farther northward. We do know that, in the state, it has been collected mainly in sandy places (dunes, sandy fields, dry grasslands), away from the more moist and cultivated habitats such as croplands, lawns, and gardens, that are favored by *P. communis*.

Burnsius oileus, there was an excellent flurry of records into the state this fall, though considering that it is numerous in coastal South Carolina, maybe it was long past time for such a flurry, as there had been only seven previous state records. One was photographed by Mark Shields on September 6 at Sandy Run Savannas (**ONSLOW**); one was seen by Nick Flanders on September 6 at the **PENDER** portion of this natural area; one was photographed by Hunter Phillips and Morganne Bowers on September 15 at Stones Creek Game Land (Onslow); one was photographed (on iNaturalist) by an unnamed person on October 3 near Brevard in Pisgah National Forest (**TRANSYLVANIA**); one was photographed by Richard Stickney on October 19 at Weymouth Woods preserve (**MOORE**); and two were photographed (in the same frame) by Jamie Adams on November 7 at Burnt Mill Creek (New Hanover).

Euphyes pilatka, one photographed on Roanoke Island (Dare) on September 16 by Al Hooks was the only report for the fall. It can be locally common in some coastal sites, but COVID-19 kept most people from making coastal trips to search for this and most other wetland skippers this season.

Atrytone byssus, Jeff Pippen continued to see the species in a powerline clearing within Duke Forest in Orange and Durham counties, at the northern edge of the advancing range. He saw as many as 5-6 individuals on several occasions. Other rare Piedmont sightings were one seen at the Cape Fear River in southeastern Chatham County on September 2 by Harry LeGrand and Lori Arent, and another by these observers at Anderson Point Park (Wake) on September 11. Notable in the inner Coastal Plain was a tally of six individuals near Bunnlevel (Harnett) on September 7, as found by Harry LeGrand.

Hedone vibex, Mike Turner had a good count of 10 in Sampson County on September 20.

Hesperia leonardus, once again, the only record was from the mountains, where two were photographed by Pete Dixon near Hot Springs (Madison) on September 5. Most observers have given up looking for the species in the Piedmont, where it used to occur in numerous counties but has seemingly disappeared in the past five years.

Hesperia attalus, there were numerous reports this season, but all from the Richmond County portion of the Sandhills Game Land – from September 2 to October 6. The best count was seven seen by Will Stuart on September 7.

Hesperia meskei, as usual most reports were from the Sandhills Game Land in Richmond and Scotland counties, with the best count being five in the Richmond County portion on October 7 by Harry LeGrand and Lori Arent. Three found at the Sandhills section of Carvers Creek State Park (Cumberland) was notable on October 20 by Mike Turner.

Poanes viator, the species is rare and local in the eastern Piedmont; three seen by Harry LeGrand and Lori Arent on September 2 at Harris Lake County Park (Wake) were at a known locale.

Amblyscirtes aesculapius, one was very late at Pee Dee National Wildlife Refuge (Anson) on October 1, as seen by Will Stuart.

Lerodea eufala, this was one of the best years ever for it in the state, with dozens of reports. The highest counts were 12 at Fort Fisher (New Hanover) on September 14 (Harry LeGrand and Lori Arent), 10 at McDowell Nature Preserve (Mecklenburg) on September 28 (Rob Gilson), and 10 south of Raleigh (Wake) on October 19 (LeGrand and Arent).

Oarisma minima, normally a rare stray in Wake County, small breeding colonies were found by Harry LeGrand and Lori Arent at the NC Museum of Art grounds and south of Raleigh; the peak daily count was four at the latter site on October 28. Good counts for this easily overlooked species were nine at the Sandhills Game Land (Richmond) on September 12 by Rob Van Epps and Kevin Metcalf, and nine at the McDowell Nature Preserve (Mecklenburg) on September 28 by Rob Gilson for an excellent Piedmont tally.

Panoquina panoquin, 300 were estimated at Fort Fisher (New Hanover) on September 14 by Harry LeGrand and Lori Arent, an excellent total for a single party.

Calpodes ethlius, continuing the flurry of reports from the summer were a modest number of fall reports, most from the Piedmont, but this might be an artifact of observer abundance rather than butterfly abundance, as more butterflies are expected in the Coastal Plain. Among the more significant reports were one photographed by Marie Poteat in Jamestown (**GUILFORD**) on September 20; one in Lewisville (**FORSYTH**) on October 5-6 by Sven Halling; three reports of singles in **CHATHAM,** and one in the mountains (where very rare) at Hot Springs (**MADISON**) on October 14 by Pete Dixon. There were only three reports from the Coastal Plain, however.

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

Brian sends in the following South Carolina Lepidoptera records, May-Oct 2020:

Butterfly numbers and diversity remained fairly strong over the course of the summer due to adequate rain and few large storms. Late season migrants from the south have been strong, with all the recent migrants except *Ascia monuste* (Great Southern White) seen multiple times. Butterfly records are listed first (mostly chronologically), with a handful of moth records at the end.

Doug Allen, Caroland Farms, Spartanburg Co.

21 Apr 2020
- Papilionidae
  - *Eurytides marcellus* - Zebra Swallowtail
  - *Papilio glaucus* - Eastern Tiger Swallowtail
  - *Papilio troilus* - Spicebush Swallowtail
- Pieridae
  - *Phoebis sennae* - Cloudless Sulphur
- Lycaenidae
  - *Celastrina neglecta* - Summer Azure
  - *Cupido comyntas* - Eastern Tailed-blue
- Nymphalidae
  - *Chlosyne nycteis* - Silvery Checkerspot
  - *Vanessa atalanta* - Red Admiral
  - *Junonia coenia* - Common Buckeye
  - *Phyciodes tharos* - Pearl Crescent
  - *Vanessa virginiensis* - American Lady
  - *Polygonia comma* - Eastern Comma
  - *Polygonia interrogationis* - Question Mark
  - *Danaus plexippus* - Monarch
  - *Hermeuptychia sosybius* - Carolina Satyr
- Hesperiidae
  - *Epargyreus clarus* - Silver– spotted Skipper
  - *Erynnis juvenalis* - Juvenal's Duskywing
  - *Poanes zabulon* - Zabulon Skipper

26 Aug 2020
- Papilionidae
  - *Papilio troilus* - Spicebush Swallowtail
  - *Papilio glaucus* - Eastern Tiger Swallowtail
- Pieridae
  - *Abaeis nicippe* - Sleepy Orange
  - *Phoebis sennae* - Cloudless Sulphur
- Lycaenidae
  - *Celastrina neglecta* - Summer Azure
  - *Cupido comyntas* - Eastern Tailed-blue
- Nymphalidae
  - *Euptoieta claudia* - Variegated Fritillary
  - *Chlosyne nycteis* - Silvery Checkerspot
  - *Phyciodes tharos* - Pearl Crescent
  - *Polygonia comma* - Eastern Comma
  - *Vanessa virginiensis* - American Lady
  - *Junonia coenia* - Common Buckeye
  - *Limenitis arthemis astyanax* - Red-spotted Purple
  - *Hermeuptychia sosybius* - Carolina Satyr
  - *Danaus plexippus* - Monarch
- Hesperiidae
  - *Erynnis horatius* - Horace's Duskywing
  - *Pholisora catullus* - Common Sootywing
  - *Ancyloxypha numitor* - Least Skipper
  - *Atalopedes campestris* - Sachem
  - *Poanes zabulon* - Zabulon Skipper
  - *Panoquina ocola* - Ocola Skipper

John Demko, Silver Bluff Audubon Sanctuary, Aiken Co.

25 Apr 2020
- Papilionidae
  - *Papilio glaucus* - Eastern Tiger Swallowtail
  - *Papilio troilus* - Spicebush Swallowtail

Pieridae
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Strymon melinus - Gray Hairstreak
Nymphalidae
Vanessa virginiensis - American Lady
Libytheana carinenta - American Snout
Limenitis arthemis astyanax - Red-spotted Purple
Euptoieta claudia - Variegated Fritillary
Junonia coenia - Common Buckeye
Phyciodes tharos - Pearl Crescent
Hermeuptychia sosybius - Carolina Satyr
Limenitis archippus - Viceroy
Danaus plexippus - Monarch
Polygonia interrogationis - Question Mark
Hesperiidae
Hylephila phyleus - Fiery Skipper
Lerema accius - Clouded Skipper
Cecropterus pylades (formerly Thorybes) - Northern Cloudywing
Cecropterus bathyllus (formerly Thorybes) - Southern Cloudywing
Erynnis sp. - Duskywing
Ancyloxypha numitor - Least Skipper
Euphyes vestris - Dun Skipper
Epargyreus clarus - Silver-spotted Skipper
Erebidae
Virbia aurantiaca - Orange Virbia

27 Jun 2020
Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio troilus - Spicebush Swallowtail
Papilio palamedes - Palamedes Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Lycaenidae
Calycopis cecrops - Red-banded Hairstreak
Strymon melinus - Gray Hairstreak 1
Nymphalidae
Libytheana carinenta - American Snout
Agraulis vanillae - Gulf Fritillary
Vanessa virginiensis -American Lady
Junonia coenia - Common Buckeye
Phyciodes tharos - Pearl Crescent
Limenitis arthemis astyanax - Red-spotted Purple
Limenitis archippus -Viceroy
Hermeuptychia sosybius - Carolina Satyr
Hesperiidae
Epargyreus clarus - Silver-spotted Skipper
Cecropterus lyciades (formerly *Achalarus*) - Hoary Edge
Cecropterus bathyllus (formerly *Thorybes*) - Southern Cloudywing
Erynnis horatius - Horace's Duskywing
Erynnis baptisiae - Wild Indigo Duskywing, confirms photo record
Erynnis sp.
Hylephila phyleus - Fiery Skipper
Polites vibex -Whirlabout
Euphyes vestris - Dun Skipper
Panoquina ocola - Ocola Skipper

Dave & Marty Kastner, Carolina Sandhills NWR, Chesterfield Co.

1 May 2020
Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio troilus - Spicebush Swallowtail
Papilio palamedes - Palamedes Swallowtail
Eurytides marcellus - Zebra Swallowtail
Papilio sp.
Nymphalidae
Phyciodes tharos - Pearl Crescent
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye, 496 counted
Euptoieta claudia - Variegated Fritillary
Polygonia sp.
Hermeuptychia sp.
Hesperiidae
Cecropterus pylades (formerly *Thorybes*) - Northern Cloudywing

31 May 2020
Papilionidae
Battus philenor - Pipevine Swallowtail
Papilio palamedes - Palamedes Swallowtail
Eurytides marcellus - Zebra Swallowtail
Lycaenidae
Strymon melinus - Gray Hairstreak
Satyrium calanus - Banded Hairstreak
Nymphalidae
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye
Danaus plexippus - Monarch
Hesperiidae
Erynnis horatius - Horace's Duskywing
Poanes zabulon - Zabulon Skipper

2 Jun 2020
Papilionidae
Battus philenor - Pipevine Swallowtail
Papilio palamedes - Palamedes Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Colias eurytheme - Orange Sulphur
Lycaenidae
Strymon melinus - Gray Hairstreak
Satyrium titus - Coral Hairstreak
Nymphalidae
Euptoieta claudia -Variegated Fritillary
Phyciodes tharos - Pearl Crescent
Vanessa virginiensis - American Lady
Libytheana carinenta - American Snout
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Danaus plexippus - Monarch
Hesperiidae
Erynnis horatius - Horace's Duskywing
Erynnis sp.
Poanes zabulon - Zabulon Skipper
Panoquina ocola - Ocola Skipper

6 Sep 2020
Papilionidae
Papilio palamedes - Palamedes Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Papilio troilus - Spicebush Swallowtail

Pieridae
Pyrisitia lisa - Little Yellow – 237 counted
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Hemiargus ceraunus - Ceraunus Blue, **county record**
Cupido comyntas - Eastern Tailed-Blue
Strymon melinus - Gray Hairstreak
Nymphalidae
Phyciodes tharos - Pearl Crescent
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye
Danaus plexippus - Monarch
Hermeuptychia sosybius - Carolina Satyr
Hesperiidae
Erynnis sp.
Ancyloxypha numitor - Least Skipper
Hylephila phyleus - Fiery Skipper
Polites vibex - Whirlabout
Lerema accius - Clouded Skipper
Poanes yehl - Yehl Skipper

8 Oct 2020
Pieridae
Pyrisitia lisa - Little Yellow, 223 counted
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Phyciodes tharos - Pearl Crescent
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Lethe portlandia - Southern Pearly-eye
Hesperiidae
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Burnsius sp. (formerly *Pyrgus*)
Copaeodes minima - Southern Skipperling
Panoquina ocola - Ocola Skipper

Matt Campbell, Parsons Mt Rec Area, Lone Cane Dist., Sumter NF, Abbeville Co., 7 May 20

Lycaenidae
Satyrium liparops - Striped Hairstreak, **County record**

Dave & Marty Kastner, Enoree Dist., Sumter NF, Store Rd & Boat Ramp Rd., Chester Co., 11 May 2020

Lycaenidae
Celastrina sp.
Nymphalidae
Polygonia interrogationis - Question Mark
Polygonia comma - Eastern Comma
Vanessa virginiensis - American Lady
Libytheana carinenta - American Snout
Junonia coenia - Common Buckeye
Lethe portlandia - Southern Pearly-eye
Hermeuptychia sp.
Megisto cymela - Little Wood Satyr
Hesperiidae
Cecropterus lyciades (formerly *Achalarus*) - Hoary Edge
Poanes zabulon - Zabulon Skipper

Dave & Marty Kastner, Enoree Dist., Sumter NF, Union Co. 11 May 20

Papilionidae
Eurytides marcellus - Zebra Swallowtail
Pieridae
Abaeis nicippe - Sleepy Orange
Lycaenidae
Strymon melinus - Gray Hairstreak
Celastrina sp.
Nymphalidae
Polygonia interrogationis - Question Mark
Polygonia sp., 100+ counted
Phyciodes tharos - Pearl Crescent
Polygonia interrogationis - Question Mark
Libytheana carinenta - American Snout
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Megisto cymela - Little Wood Satyr
Hermeuptychia sp.
Hesperiidae
Cecropterus pylades (formerly *Thorybes)* - Northern Cloudywing
Cecropterus sp. (formerly *Thorybes*)

John Demko, Gum Swamp Rd., Jackson, 14 May 2020, Aiken Co.

Papilionidae
Eurytides marcellus - Zebra Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Lycaenidae
Strymon melinus - Gray Hairstreak
Cupido comyntas - Eastern Tailed-Blue Nymphalidae
Danaus plexippus - Monarch
Junonia coenia - Common Buckeye
Polygonia interrogationis - Question Mark
Polygonia sp.
Libytheana carinenta - American Snout
Asterocampa clyton - Tawny Emperor
Agraulis vanillae - Gulf Fritillary – earliest known from county
Euptoieta claudia - Variegated Fritillary
Hesperiidae
Lerema accius - Clouded Skipper
Hylephila phyleus - Fiery Skipper
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Erynnis horatius - Horace's Duskywing
Erynnis sp.

Dennis & Donna Forsythe, Santee Delta east, Charleston Co.

2 Jun 2020
Nymphalidae
Libytheana carinenta - American Snout

Limenitis archippus - Viceroy
Limenitis arthemis astyanax - Red-spotted Purple
Polygonia interrogationis - Question Mark
Vanessa atalanta - Red Admiral
Phyciodes tharos - Pearl Crescent
Hermeuptychia sp.
Hesperiidae
Burnsius oileus - Tropical Checkered-Skipper
Euphyes dukesi - Duke's Skipper
Problema bulenta - Rare Skipper
Hylephila phyleus - Fiery Skipper
Poanes viator - Broad-winged Skipper
Ancyloxypha numitor - Least Skipper

22 Aug 2020
Papilionidae
Papilio palamedes - Palamedes Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Strymon melinus - Gray Hairstreak
Nymphalidae
Limenitis archippus - Viceroy
Phyciodes tharos - Pearl Crescent
Hermeuptychia sosybius - Carolina Satyr
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Burnsius oileus - Tropical Checkered-Skipper
Poanes viator - Broad-winged Skipper
Lerema accius - Clouded Skipper
Ancyloxypha numitor - Least Skipper

Dave & Marty Kastner, Timmerman Trail, Cayce, Lexington Co.

1 Jun 2020
Papilionidae
Eurytides marcellus - Zebra Swallowtail
Nymphalidae
Euptoieta claudia - Variegated Fritillary
Phyciodes tharos - Pearl Crescent
Polygonia interrogationis - Question Mark
Vanessa atalanta - Red Admiral
Vanessa virginiensis - American Lady
Libytheana carinenta - American Snout
Junonia coenia - Common Buckeye
Asterocampa celtis - Hackberry Emperor
Hesperiidae
Erynnis horatius - Horace's Duskywing
Erynnis sp.
Urbanus proteus - Long-tailed Skipper
Hylephila phyleus - Fiery Skipper

21 Sep 2020
Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio troilus - Spicebush Swallowtail
Eurytides marcellus - Zebra Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Pyrisitia lisa - Little Yellow
Lycaenidae
Calycopis cecrops - Red-banded Hairstreak
Strymon melinus - Gray Hairstreak 1
Celastrina neglecta - Summer Azure
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Chlosyne nycteis - Silvery Checkerspot
Phyciodes tharos - Pearl Crescent
Polygonia interrogationis - Question Mark
Polygonia comma - Eastern Comma
Vanessa virginiensis - American Lady
Vanessa atalanta - Red Admiral
Libytheana carinenta - American Snout
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Limenitis archippus - Viceroy
Asterocampa celtis - Hackberry Emperor
Asterocampa clyton - Tawny Emperor
Hermeuptychia sosybius - Carolina Satyr
Hermeuptychia sp.
Danaus plexippus - Monarch
Hesperiidae
Epargyreus clarus - Silver-spotted Skipper
Urbanus proteus - Long-tailed Skipper
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Burnsius oileus - Tropical Checkered-Skipper
Burnsius sp. (formerly Pyrgus)
Hylephila phyleus - Fiery Skipper 1
Lerema accius - Clouded Skipper
Panoquina ocola - Ocola Skipper

Dennis & Donna Forsythe, Francis Marion NF, Palmer Bridge & Mills Branch Rds., Charleston Co., 3 Jun 2020

Papilionidae
Papilio palamedes - Palamedes Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Abaeis nicippe - Sleepy Orange
Lycaenidae
Celastrina neglecta - Summer Azure
Nymphalidae
Junonia coenia - Common Buckeye
Phyciodes tharos - Pearl Crescent
Megisto cymela - Little Wood Satyr
Danaus plexippus - Monarch
Hesperiidae
Epargyreus clarus - Silver-spotted Skipper
Burnsius oileus - Tropical Checkered-Skipper
Erynnis horatius - Horace's Duskywing
Problema byssus - Byssus Skipper
Hylephila phyleus - Fiery Skipper
Poanes yehl - Yehl Skipper
Oligoria maculata - Twin-spotted Skipper
Nastra lherminier - Swarthy Skipper
Lerema accius - Clouded Skipper
Erynnis horatius - Horace's Duskywing

Will Stuart, Carolina Sandhills NWR, Chesterfield Co.

6 Jun 2020
Papilionidae
Papilio troilus - Spicebush Swallowtail
Lycaenidae
Celastrina sp.
Satyrium titus - Coral Hairstreak

Nymphalidae
Junonia coenia - Common Buckeye
Vanessa virginiensis - American Lady
Hesperiidae
Erynnis horatius - Horace's Duskywing
Erynnis zarucco - Zarucco Duskywing

7 Jun 2020
Papilionidae
Papilio troilus - Spicebush Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Eurytides marcellus - Zebra Swallowtail
Papilio palamedes - Palamedes Swallowtail
Pieridae
Colias eurytheme - Orange Sulphur
Lycaenidae
Celastrina sp.
Cupido comyntas - Eastern Tailed-Blue
Satyrium titus - Coral hairstreak
Satyrium kingi - King's Hairstreak
Nymphalidae
Junonia coenia - Common Buckeye
Vanessa virginiensis - American Lady
Euptoieta claudia - Variegated Fritillary
Hesperiidae
Erynnis zarucco - Zarucco Duskywing
Erynnis horatius - Horace's Duskywing
Hylephila phyleus - Fiery Skipper

13 Jun 2020
Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio palamedes - Palamedes Swallowtail
Eurytides marcellus - Zebra Swallowtail
Pieridae
Abaeis nicippe - Sleepy Orange
Lycaenidae
Satyrium titus - Coral Hairstreak
Satyrium kingi - King's Hairstreak
Atlides halesus - Great Purple hairstreak
Celastrina sp.
Nymphalidae
Euptoieta claudia - Variegated Fritillary
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye
Hesperiidae
Hylephila phyleus - Fiery Skipper
Hesperia meskei - Meske's Skipper
Polites vibex - Whirlabout
Erynnis zarucco - Zarucco Duskywing
Erynnis horatius - Horace's Duskywing

19 Sep 2020
Papilionidae
Papilio troilus - Spicebush Swallowtail
Papilio palamedes - Palamedes Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Pyrisitia lisa - Little Yellow
Lycaenidae
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Euptoieta claudia - Variegated Fritillary
Agraulis vanillae - Gulf Fritillary
Junonia coenia - Common Buckeye
Phyciodes tharos - Pearl Crescent
Vanessa virginiensis - American Lady
Hesperiidae
Hylephila phyleus - Fiery Skipper
Ancyloxypha numitor - Least Skipper
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Lerodea eufala - Eufala Skipper
Pompeius verna - Little Glassywing

Dennis & Donna Forsythe, Francis Marion NF, Farewell Corners @ Halfway Creek., Berkeley Co., 10 Jun 2020

Papilionidae
Battus philenor - Pipevine Swallowtail
Papilio palamedes - Palamedes Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Lycaenidae
Strymon melinus - Gray Hairstreak
Riodinidae
Calephelis virginiensis - Little Metalmark
Nymphalidae
Danaus plexippus - Monarch
Junonia coenia - Common Buckeye
Phyciodes tharos - Pearl Crescent
Lethe portlandia - Southern Pearly-eye
Neonympha areolata - Georgia Satyr
Hesperiidae
Cecropterus bathyllus (formerly *Thorybes*) - Southern Cloudywing
Erynnis sp.
Anatrytone logan - Delaware Skipper
Problema byssus - Byssus Skipper
Amblyscirtes reversa - Reversed Roadside-Skipper
Lerema accius - Clouded Skipper

Doug Allen, Holston Creek Park, Spartanburg Co.

20 Jun 2020
Pieridae
Colias eurytheme - Orange Sulphur
Lycaenidae
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Phyciodes tharos - Pearl Crescent
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Hesperiidae
Erynnis horatius - Horace's Duskywing
Burnsius sp. (formerly *Pyrgus*)
Hylephila phyleus - Fiery Skipper

30 Jun 2020
Pieridae
Colias eurytheme - Orange Sulphur
Abaeis nicippe - Sleepy Orange
Lycaenidae
Strymon melinus - Gray Hairstreak
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Euptoieta claudia - Variegated Fritillary
Phyciodes tharos - Pearl Crescent
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye

Hesperiidae
Lerodea eufala - Eufala Skipper
Hylephila phyleus - Fiery Skipper
Atalopedes campestris - Sachem
11 Jul 2020
Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio troilus - Spicebush Swallowtail
Lycaenidae
Strymon melinus - Gray Hairstreak
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Phyciodes tharos - Pearl Crescent
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Hylephila phyleus - Fiery Skipper
Atalopedes campestris - Sachem
2 Aug 2020
Papilionidae
Papilio troilus - Spicebush Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Colias eurytheme - Orange Sulphur
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye
Limenitis archippus-Viceroy
Hesperiidae
Hylephila phyleus - Fiery Skipper
Atalopedes campestris - Sachem

Dennis Forsythe, Holy Cross Cemetery, James Is., Charleston Co.

22 Jul 2020
Hesperiidae
Erynnis funeralis - Funereal Duskywing, photograph
1 Nov 2020
Pieridae
Pyrisitia lisa - Little Yellow
Lycaenidae
Leptotes cassius - Cassius Blue
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Panoquina ocola - Ocola Skipper

Dennis & Donna Forsythe, Holy Cross Cemetery, Charleston Co., 21 Aug 2020

Pieridae
Phoebis sennae - Cloudless Sulphur
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Heliconius charithonia - Zebra Longwing
Hesperiidae
Erynnis horatius - Horace's Duskywing
Hylephila phyleus - Fiery Skipper
Polites vibex - Whirlabout
Panoquina ocola - Ocola Skipper
Urbanus proteus - Long-tailed Skipper

Terrie Johnson, Elloree, Orangeburg Co., 25 Jul 2020

Pieridae
Nathalis iole - Dainty Sulfur, photograph, **county record**

Dennis & Donna Forsythe, Elloree, Orangeburg Co., 3 Aug 2020

Papilionidae
Papilio troilus - Spicebush Swallowtail
Papilio palamedes - Palamedes Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Nathalis iole - Dainty Sulfur
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Pieris rapae - Cabbage White
Lycaenidae
Strymon melinus - Gray Hairstreak
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Vanessa virginiensis - American Lady
Hesperiidae
Epargyreus clarus - Silver-spotted Skipper
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Polites vibex - Whirlabout
Lerodea eufala - Eufala Skipper

Dennis & Donna Forsythe, Po Chance Rd., Orangeburg Co.

3 Aug 2020
Papilionidae
Papilio palamedes - Palamedes Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Nymphalidae
Euptoieta claudia - Variegated Fritillary
Hesperiidae
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Erynnis zarucco - Zarucco Duskywing
30 Aug 2020
Pieridae
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Hesperiidae
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Copaeodes minima - Southern Skipperling

Doug Allen, near his home, Spartanburg Co., 3 Aug 2020

Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail

Pieridae
Pontia protodice - Checkered White
Colias eurytheme - Orange Sulphur
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Vanessa virginiensis - American Lady
Libytheana carinenta - American Snout
Junonia coenia - Common Buckeye
Hesperiidae
Epargyreus clarus - Silver-spotted Skipper
Urbanus proteus - Long-tailed Skipper
Erynnis horatius - Horace's Duskywing
Hylephila phyleus - Fiery Skipper
Atalopedes campestris - Sachem
Poanes zabulon - Zabulon Skipper

Dennis & Donna Forsythe, Folly Beach, Charleston Co., 4 Aug 2020

Papilionidae
Papilio palamedes - Palamedes Swallowtail
Lycaenidae
Leptotes cassius - Cassius Blue
Nymphalidae
Heliconius charithonia - Zebra Longwing
Agraulis vanillae - Gulf Fritillary
Hesperiidae
Urbanus proteus - Long-tailed Skipper

Dennis & Donna Forsythe, Hyde Park Rd, Ravenel, Charleston Co.

9 Aug 2020
Papilionidae
Papilio troilus - Spicebush Swallowtail
Papilio palamedes - Palamedes Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Celastrina neglecta - Summer Azure
Hemiargus ceraunus - Ceraunus Blue
Nymphalidae
Libytheana carinenta - American Snout
Heliconius charithonia - Zebra Longwing
Agraulis vanillae - Gulf Fritillary
Limenitis arthemis astyanax - Red-spotted Purple
Asterocampa celtis - Hackberry Emperor
Hesperiidae
Cecropterus bathyllus (formerly *Thorybes*) - xxxxxSouthern Cloudywing
Urbanus proteus - Long-tailed Skipper
Epargyreus clarus - Silver-spotted Skipper
Burnsius oileus - Tropical Checkered-Skipper
Erynnis zarucco - Zarucco Duskywing
Erynnis funeralis - Funereal Duskywing, 2nd of year
Euphyes vestris - Dun Skipper
Hylephila phyleus - Fiery Skipper
Wallengrenia otho - Southern Broken-dash
Amblyscirtes aesculapius - Lace-winged Roadside-skipper
11 Aug 2020
Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio troilus - Spicebush Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Lycaenidae
Celastrina neglecta - Summer Azure
Nymphalidae
Heliconius charithonia - Zebra Longwing
Polygonia interrogationis - Question Mark
Phyciodes tharos - Pearl Crescent
Hermeuptychia sp.
Hesperiidae
Epargyreus clarus - Silver-spotted Skipper
Urbanus proteus - Long-tailed Skipper
Burnsius oileus - Tropical Checkered-Skipper
Euphyes vestris - Dun Skipper
Amblyscirtes aesculapius - Lace-winged Roadside-skipper
Calpodes ethlius - Brazilian Skipper
27 Aug 2020
Papilionidae
Papilio polyxenes - Black Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Papilio palamedes - Palamedes Swallowtail
Pieridae
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Celastrina neglecta - Summer Azure
Nymphalidae
Heliconius charithonia - Zebra Longwing
Agraulis vanillae - Gulf Fritillary
Phyciodes tharos - Pearl Crescent
Hermeuptychia sp.
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Epargyreus clarus - Silver-spotted Skipper
Burnsius oileus - Tropical Checkered-Skipper
Euphyes vestris - Dun Skipper
Oligoria maculata - Twin-spotted Skipper
Amblyscirtes aesculapius - Lace-winged Roadside-skipper
Lerema accius - Clouded Skipper
14 Oct 2020
Papilionidae
Papilio palamedes - Palamedes Swallowtail
Pieridae
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Danaus plexippus - Monarch
Heliconius charithonia - Zebra Longwing
Agraulis vanillae - Gulf Fritillary
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye

Phyciodes tharos - Pearl Crescent
Lethe sp.
Hermeuptychia sosybius - Carolina Satyr
Hermeuptychia sp.
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Burnsius oileus - Tropical Checkered-Skipper
Erynnis zarucco - Zarucco Duskywing
Hylephila phyleus - Fiery Skipper
Lerema accius - Clouded Skipper
Panoquina ocola - Ocola Skipper

Doug Allen, old field near Spartanburg, Spartanburg Co.

10 Aug 2020
Papiionidae
Papilio troilus - Spicebush Swallowtail
Pieridae
Pontia protodice - Checkered White
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Strymon melinus - Gray Hairstreak
Cupido comyntas - Eastern Tailed-Blue Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Phyciodes tharos - Pearl Crescent
Junonia coenia - Common Buckeye
Hesperiidae
Epargyreus clarus - Silver-spotted Skipper
Erynnis horatius - Horace's Duskywing
Burnsius communis (formerly *Pyrgus*) - Common Checkered-Skipper
Pholisora catullus - Common Sootywing
Lerodea eufala - Eufala Skipper
Hylephila phyleus - Fiery Skipper
12 Aug 2020
Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Pontia protodice - Checkered White
Abaeis nicippe - Sleepy Orange - 356 counted
Phoebis sennae - Cloudless Sulphur - 249 counted
Nymphalidae
Junonia coenia - Common Buckeye
Euptoieta claudia - Variegated Fritillary
Agraulis vanillae - Gulf Fritillary
Vanessa virginiensis - American Lady
Hesperiidae
Hylephila phyleus - Fiery Skipper
Erynnis horatius - Horace's Duskywing
Burnsius sp. (formerly *Pyrgus*)
Pholisora catullus - Common Sootywing
Epargyreus clarus - Silver-spotted Skipper
Atalopedes campestris - Sachem
Urbanus proteus - Long-tailed Skipper
Panoquina ocola - Ocola Skipper
Lerodea eufala - Eufala Skipper

Matt Campbell, Abbeville, Abbeville Co., 18 Aug 2020
Nymphalidae
Heliconius charithonia - Zebra Longwing, **county record**

Dave & Marty Kastner, Lee SP, Bishopville, Lee Co.

17 Aug 2020
Papilionidae
Papilio palamedes - Palamedes Swallowtail
Pieridae
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Pyrisitia lisa - Little Yellow
Nymphalidae
Phyciodes tharos - Pearl Crescent
Limenitis arthemis astyanax - Red-spotted Purple
Polygonia interrogationis - Question Mark
Hesperiidae
Erynnis horatius - Horace's Duskywing
Erynnis sp.
26 Oct 2020
Pieridae
Pyrisitia lisa - Little Yellow
Nymphalidae
Phyciodes tharos - Pearl Crescent
Junonia coenia - Common Buckeye
Lethe portlandia - Southern Pearly-eye
Lethe sp.
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Ancyloxypha numitor - Least Skipper
Panoquina ocola - Ocola Skipper

Mike Turner, Little Pee Dee SP, Dillon Co., 22 Aug 2020

Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio troilus - Spicebush Swallowtail
Papilio palamedes - Palamedes Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Lycaenidae
Atlides halesus - Great Purple Hairstreak
Calycopis cecrops - Red-banded Hairstreak Nymphalidae
Phyciodes tharos - Pearl Crescent
Lethe portlandia - Southern Pearly-eye
Lethe appalachia - Appalachian Brown
Hesperiidae
Epargyreus clarus - Silver-spotted Skipper
Hylephila phyleus - Fiery Skipper

Dennis & Donna Forsythe, Francis Marion NF, Ion Swamp Rd., Charleston Co., 22 Aug 2020

Papilionidae
Papilio palamedes - Palamedes Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Phyciodes tharos - Pearl Crescent
Hermeuptychia sp.
Hesperiidae
Euphyes vestris - Dun Skipper
Wallengrenia otho - Southern Broken-Dash
Amblyscirtes aesculapius - Lace-winged Roadside-skipper, 20+ counted

Dave & Marty Kastner, Fort Mott, Calhoun Co., 22 Aug 2020

Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio sp.
Pieridae
Abaeis nicippe - Sleepy Orange
Pyrisitia lisa - Little Yellow - ovipositing on Partridge Pea
Phoebis sennae - Cloudless Sulphur - ovipositing on Partridge Pea
Lycaenidae
Celastrina neglecta - Summer Azure
Strymon melinus - Gray Hairstreak
Nymphalidae
Phyciodes tharos - Pearl Crescent
Agraulis vanillae - Gulf Fritillary, ovipositing on *Passiflora*
Euptoieta claudia - Variegated Fritillary
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye
Hermeuptychia sp.
Hesperiidae
Erynnis horatius - Horace's Duskywing
Erynnis sp.
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Burnsius oileus - Tropical Checkered-Skipper
Burnsius sp. (formerly *Pyrgus*)
Copaeodes minima - Southern Skipperling
Lerodea eufala - Eufala Skipper
Hylephila phyleus - Fiery Skipper
Lerema accius - Clouded Skipper
Pompeius verna - Little Glassywing

Dennis & Donna Forsythe, Edisto Island, Clark Rd., Charleston Co., 27 Aug 2020

Papilionidae
Papilio palamedes - Palamedes Swallowtail
Pieridae
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Limenitis archippus - Viceroy
Anartia jatrophae - White Peacock
Junonia coenia – Common Buckeye
Phyciodes tharos - Pearl Crescent
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Erynnis horatius - Horace's Duskywing
Copaeodes minima - Southern Skipperling

Matt Campbell, Pressly Garden, Erskine College, Due West, Abbeville Co., 26 Aug 2020

Hesperiidae
Calpodes ethlius - Brazilian Skipper, **county record**
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper, **county record**

Tom Austin, Edisto Island, Charleston Co., 25 Aug 2020

Nymphalidae
Anartia jatrophae - White Peacock

Dennis & Donna Forsythe, Fort Lamar, James Island, Charleston Co.

28 Aug 2020
Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio palamedes - Palamedes Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Nymphalidae
Heliconius charithonia - Zebra Longwing
Agraulis vanillae - Gulf Fritillary
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Burnsius oileus - Tropical Checkered-Skipper
Erynnis horatius - Horace's Duskywing
Lerema accius - Clouded Skipper
5 Sep 2020
Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Abaeis nicippe - Sleepy Orange
Lycaenidae
Strymon melinus - Gray Hairstreak
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Heliconius charithonia - Zebra Longwing
Limenitis arthemis astyanax - Red-spotted Purple
Danaus plexippus - Monarch
Hesperiidae
Panoquina panoquin - Salt Marsh Skipper
10 Sep 2020
Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio palamedes - Palamedes Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Nymphalidae
Heliconius charithonia - Zebra Longwing
Agraulis vanillae - Gulf Fritillary
Limenitis arthemis astyanax - Red-spotted Purple
Junonia coenia - Common Buckeye
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Burnsius oileus - Tropical Checkered-Skipper
12 Oct 2020
Papilionidae
Papilio cresphontes - Eastern Giant Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Heliconius charithonia - Zebra Longwing
Hesperiidae
Urbanus proteus - Long-tailed Skipper

14 Oct 2020

Papilionidae
Papilio cresphontes - Eastern Giant Swallowtail
Pieridae
Pyrisitia lisa - Little Yellow
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Strymon melinus - Gray Hairstreak 1
Nymphalidae
Heliconius charithonia - Zebra Longwing
Agraulis vanillae - Gulf Fritillary
Hesperiidae
Urbanus proteus - Long-tailed Skipper

Dennis & Donna Forsythe, Super Sod Farm, Orangeburg Co., 30 Aug 2020

Papilionidae
Papilio palamedes - Palamedes Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Limenitis archippus - Viceroy
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye
Phyciodes tharos - Pearl Crescent
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Hylephila phyleus - Fiery Skipper
Polites vibex - Whirlabout
Copaeodes minima - Southern Skipperling
Panoquina ocola - Ocola Skipper

Mike Turner, Lee SP, Bishopville, Lee Co., 6 Sep 2020

Papilionidae
Papilio glaucus - Eastern Tiger Swallowtail
Papilio troilus - Spicebush Swallowtail
Papilio palamedes - Palamedes Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Lycaenidae
Strymon melinus - Gray Hairstreak
Nymphalidae
Libytheana carinenta - American Snout
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Phyciodes tharos - Pearl Crescent
Polygonia interrogationis - Question Mark
Polygonia comma - Eastern Comma
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Limenitis archippus - Viceroy
Lethe portlandia - Southern Pearly-eye
Lethe creola - Creole Pearly-eye
Danaus plexippus - Monarch
Hesperiidae
Erynnis horatius - Horace's Duskywing
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Lerema accius - Clouded Skipper
Ancyloxypha numitor - Least Skipper
Atalopedes campestris - Sachem
Amblyscirtes aesculapius - Lace-winged Roadside-skipper
Panoquina ocola - Ocola Skipper

Dennis & Donna Forsythe, Hampton Park, Charleston Co., 14 Sep 2020

Papilionidae
Papilio troilus - Spicebush Swallowtail
Pieridae
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Strymon melinus - Gray Hairstreak
Leptotes cassius - Cassius Blue
Nymphalidae
Danaus plexippus - Monarch
Agraulis vanillae - Gulf Fritillary
Junonia coenia - Common Buckeye
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Epargyreus clarus - Silver-spotted Skipper
Burnsius albescens (formerly *Pyrgus)* - White Checkered-Skipper
Burnsius oileus - Tropical Checkered-Skipper
Erynnis horatius - Horace's Duskywing
Erynnis zarucco - Zarucco Duskywing
Hylephila phyleus - Fiery Skipper
Polites vibex - Whirlabout
Atalopedes campestris - Sachem
Panoquina panoquin - Salt Marsh Skipper
Panoquina ocola - Ocola Skipper
Calpodes ethlius - Brazilian Skipper

Dennis & Donna Forsythe, Tillman Sand Ridge HP, Jasper Co., 21 Sep 2020

Pieridae
Eurema daira - Barred Yellow
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Zerene cesonia - Southern Dogface
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Calycopis cecrops - Red-banded Hairstreak
Strymon melinus - Gray Hairstreak 1
Hemiargus ceraunus - Ceraunus Blue
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Junonia coenia - Common Buckeye
Hesperiidae
Burnsius oileus - Tropical Checkered-Skipper

Erynnis zarucco - Zarucco Duskywing
Euphyes vestris - Dun Skipper
Nastra lherminier - Swarthy Skipper

Dennis & Donna Forsythe, B & C landing, Jasper Co., 21 Sep 2020

Pieridae
Eurema daira - Barred Yellow
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Hemiargus ceraunus - Ceraunus Blue
Nymphalidae
Heliconius charithonia - Zebra Longwing
Phyciodes tharos - Pearl Crescent
Hermeuptychia sp.
Hesperiidae
Burnsius oileus - Tropical Checkered-Skipper

Dennis & Donna Forsythe, Santee Coastal Reserve, Charleston Co., 26 Sep 2020

Papilionidae
Papilio palamedes - Palamedes Swallowtail
Pieridae
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Strymon melinus - Gray Hairstreak
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Junonia coenia - Common Buckeye
Phyciodes tharos - Pearl Crescent
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Panoquina ocola - Ocola Skipper

Doug Allen, Myrtle Beach sports center, Horry Co., 27 Sep 2020

Pieridae
Pyrisitia lisa - Little Yellow
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Junonia coenia - Common Buckeye
Limenitis archippus -Viceroy
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Erynnis zarucco - Zarucco Duskywing
Ancyloxypha numitor - Least Skipper
Hylephila phyleus - Fiery Skipper
Polites vibex - Whirlabout
Lerema accius - Clouded Skipper
Panoquina ocola - Ocola Skipper

Will Stuart, Carolina Sandhills NWR, Oxpen Lake loop, Chesterfield Co., 28 Sep 2020

Papilionidae
Papilio palamedes - Palamedes Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Pyrisitia lisa - Little Yellow
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Junonia coenia - Common Buckeye
Danaus plexippus - Monarch
Limenitis arthemis astyanax - Red-spotted Purple
Limenitis archippus - Viceroy
Vanessa virginiensis - American Lady
Phyciodes tharos - Pearl Crescent
Hesperiidae
Euphyes vestris - Dun Skipper

Ron Ahle, Congaree Creek HP, Lexington Co., 22 Sep 2020

Nymphalidae
Anaea andria - Goatweed Leafwing, county record

Dave & Marty Kastner, Congaree Creek HP, Lexington Co., 1 Oct 2020

Papilionidae
Eurytides marcellus - Zebra Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Pyrisitia lisa - Little Yellow
Lycaenidae
Calycopis cecrops - Red-banded Hairstreak
Strymon melinus - Gray Hairstreak
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Chlosyne nycteis - Silvery Checkerspot
Phyciodes tharos - Pearl Crescent
Polygonia interrogationis - Question Mark
Vanessa virginiensis - American Lady
Libytheana carinenta - American Snout
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Limenitis archippus - Viceroy
Anaea andria - Goatweed Leafwing
Asterocampa celtis - Hackberry Emperor
Lethe portlandia - Southern Pearly-eye
Lethe creola - Creole Pearly-eye
Lethe sp.
Hermeuptychia sp.
Cyllopsis gemma - Gemmed Satyr
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Urbanus proteus - Long-tailed Skipper
Erynnis sp.
Burnsius sp. (formerly *Pyrgus*)
Hylephila phyleus - Fiery Skipper 1
Euphyes vestris - Dun Skipper
Lerema accius - Clouded Skipper
Polites origenes - Crossline Skipper
Panoquina ocola - Ocola Skipper

Dave & Marty Kastner, Bates Ferry Trail, Congaree NP, Richland Co., 2 Oct 2020

Papilionidae
Papilio glaucus – Eastern Tiger Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Pyrisitia lisa - Little Yellow
Lycaenidae
Celastrina neglecta - Summer Azure
Cupido comyntas - Eastern Tailed-Blue
Calycopis cecrops -Red-banded Hairstreak
Nymphalidae
Heliconius charithonia - Zebra Longwing
Chlosyne nycteis - Silvery Checkerspot
Phyciodes tharos - Pearl Crescent
Polygonia interrogationis - Question Mark
Polygonia comma - Eastern Comma
Vanessa cardui - Painted Lady
Limenitis arthemis astyanax - Red-spotted Purple
Limenitis archippus - Viceroy
Asterocampa celtis - Hackberry Emperor
Lethe portlandia - Southern Pearly-eye
Lethe creola - Creole Pearly-eye
Hermeuptychia sosybius - Carolina Satyr
Hermeuptychia sp.
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Burnsius oileus - Tropical Checkered-Skipper
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Burnsius sp. (formerly *Pyrgus*)
Copaeodes minima - Southern Skipperling
Euphyes vestris - Dun Skipper
Pompeius verna - Little Glassywing
Lerema accius - Clouded Skipper
Poanes zabulon - Zabulon Skipper
Panoquina ocola - Ocola Skipper

Doug Allen, Inman, Spartanburg Co. 13 Oct 2020

Papilionidae
Papilio polyxenes - Black Swallowtail
Papilio troilus - Spicebush Swallowtail
Papilio glaucus - Eastern Tiger Swallowtail
Pieridae
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Celastrina neglecta - Summer Azure
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Phyciodes tharos - Pearl Crescent
Vanessa virginiensis - American Lady
Vanessa atalanta - Red Admiral
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Danaus plexippus - Monarch
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Burnsius communis (formerly *Pyrgus*) - Common Checkered-Skipper

14 Oct 2020
Nymphalidae
Heliconius charithonia - Zebra Longwing

Dave & Marty Kastner, Cayce, Old State Rd, Lexington Co.

15 Oct 2020
Papilionidae
Eurytides marcellus - Zebra Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Pyrisitia lisa - Little Yellow
Lycaenidae
Calycopis cecrops - Red-banded Hairstreak
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Phyciodes tharos - Pearl Crescent
Anthanassa seminole - Seminole Crescent
Polygonia interrogationis - Question Mark
Polygonia sp.
Vanessa virginiensis - American Lady
Vanessa cardui - Painted Lady
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Limenitis archippus - Viceroy
Danaus plexippus - Monarch
Lethe portlandia - Southern Pearly-eye
Hermeuptychia sosybius - Carolina Satyr
Hermeuptychia sp.
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Erynnis zarucco - Zarucco Duskywing
Erynnis sp.
Burnsius oileus - Tropical Checkered-Skipper
Burnsius sp. (formerly *Pyrgus*)
Hylephila phyleus - Fiery Skipper
Euphyes vestris - Dun Skipper
Pompeius verna - Little Glassywing
Lerema accius - Clouded Skipper
Panoquina ocola - Ocola Skipper
19 Oct 2020
Papilionidae
Eurytides marcellus - Zebra Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Pyrisitia lisa - Little Yellow
Lycaenidae
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Phyciodes tharos - Pearl Crescent
Polygonia comma - Eastern Comma
Polygonia interrogationis - Question Mark
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Danaus plexippus - Monarch
Lethe portlandia - Southern Pearly-eye
Hermeuptychia sosybius - Carolina Satyr
Hermeuptychia sp.

Hesperiidae
Epargyreus clarus - Silver-spotted Skipper
Urbanus proteus - Long-tailed Skipper
Erynnis zarucco - Zarucco Duskywing
Burnsius oileus - Tropical Checkered-Skipper
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Burnsius sp. (formerly *Pyrgus*)
Copaeodes minima - Southern Skipperling
Hylephila phyleus - Fiery Skipper
Lerema accius - Clouded Skipper
Panoquina ocola - Ocola Skipper

30 Oct 2020
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Pyrisitia lisa - Little Yellow
Lycaenidae
Calycopis cecrops - Red-banded Hairstreak
Strymon melinus - Gray Hairstreak
Nymphalidae
Agraulis vanillae - Gulf Fritillary
Phyciodes tharos - Pearl Crescent
Anthanassa seminole - Seminole Crescent
Polygonia interrogationis - Question Mark
Polygonia sp.
Vanessa virginiensis - American Lady
Junonia coenia - Common Buckeye
Limenitis arthemis astyanax - Red-spotted Purple
Asterocampa celtis - Hackberry Emperor
Lethe portlandia - Southern Pearly-eye
Lethe sp.
Hermeuptychia sp.
Hesperiidae
Epargyreus clarus - Silver-spotted Skipper
Urbanus proteus - Long-tailed Skipper
Erynnis zarucco - Zarucco Duskywing, + 2 larvae
Burnsius albescens (formerly *Pyrgus*) - White Checkered-Skipper
Burnsius oileus - Tropical Checkered-Skipper
Burnsius sp. (formerly *Pyrgus*)
Hylephila phyleus - Fiery Skipper
Lerema accius - Clouded Skipper
Panoquina ocola - Ocola Skipper

John Demko, Aiken, Aiken Co.

4 Oct 2020
Hesperiidae
Urbanus dorantes - Dorantes Skipper, **county record**
27 Oct 2020
Nymphalidae
Heliconius charithonia - Zebra Longwing
Hesperiidae
Lerodea eufala - Eufala Skipper
Nathan Dias, Charleston, Charleston Co.
18 Oct 2020
Papilionidae
Papilio cresphontes - Eastern Giant Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Leptotes cassius - Cassius Blue
Nymphalidae
Heliconius charithonia - Zebra Longwing
Danaus plexippus - Monarch
Limenitis arthemis astyanax - Red-spotted Purple
Libytheana carinenta - American Snout
Hermeuptychia sosybius - Carolina Satyr
Asterocampa celtis - Hackberry Emperor
Phyciodes tharos - Pearl Crescent
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Panoquina panoquin - Salt Marsh Skipper
Lerema accius - Clouded Skipper
Hylephila phyleus - Fiery Skipper 1
Erynnis horatius - Horace's Duskywing
Burnsius sp.
28 Oct 2020
Lycaenidae
Leptotes cassius - Cassius Blue
Nymphalidae
Danaus gilippus - Queen
Heliconius charithonia - Zebra Longwing

Dennis & Donna Forsythe, Francis Marion NF, Hoover Rd., Berkeley Co., 18 Oct 2020

Papilionidae
Papilio palamedes - Palamedes Swallowtail
Pieridae
Pyrisitia lisa - Little Yellow, 200+ counted
Abaeis nicippe - Sleepy Orange
Phoebis sennae - Cloudless Sulphur
Lycaenidae
Calycopis cecrops - Red-banded Hairstreak
Strymon melinus - Gray Hairstreak
Cupido comyntas - Eastern Tailed-Blue Nymphalidae
Danaus plexippus - Monarch
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Junonia coenia - Common Buckeye
Phyciodes tharos - Pearl Crescent
Hermeuptychia sosybius - Carolina Satyr
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Erynnis zarucco - Zarucco Duskywing
Euphyes dion - Dion Skipper
Euphyes vestris - Dun Skipper
Hylephila phyleus - Fiery Skipper
Polites themistocles - Tawny-edged Skipper
Wallengrenia egeremet - Northern Broken-Dash
Oligoria maculata - Twin-spot Skipper
Nastra lherminier - Swarthy Skipper
Lerema accius - Clouded Skipper
Panoquina panoquin - Salt Marsh Skipper
Panoquina ocola - Ocola Skipper

Will Stuart, Little Ocean Bay HP, Horry Co., 17-18 Oct 2020

Papilionidae
Papilio palamedes - Palamedes Swallowtail
Pieridae
Phoebis sennae - Cloudless Sulphur
Abaeis nicippe - Sleepy Orange
Pyrisitia lisa - Little Yellow
Lycaenidae
Strymon melinus - Gray Hairstreak
Cupido comyntas - Eastern Tailed-Blue
Nymphalidae
Danaus plexippus - Monarch
Vanessa virginiensis - American Lady

Vanessa cardui - Painted Lady
Agraulis vanillae - Gulf Fritillary
Euptoieta claudia - Variegated Fritillary
Junonia coenia - Common Buckeye
Phyciodes tharos - Pearl Crescent
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Panoquina ocola - Ocola Skipper
Lerema accius - Clouded Skipper
Lerodea eufala - Eufala Skipper
Hylephila phyleus - Fiery Skipper
Epargyreus clarus - Silver-spotted Skipper
Burnsius sp.
Copaeodes minima - Southern Skipperling
Polites vibex - Whirlabout

Dennis & Donna Forsythe, Sol Legare boat landing, Charleston Co., 23 Oct 2020

Pieridae
Pyrisitia lisa - Little Yellow
Phoebis sennae - Cloudless Sulphur
Nymphalidae
Danaus gilippus - Queen
Agraulis vanillae - Gulf Fritillary
Junonia coenia - Common Buckeye
Hesperiidae
Urbanus proteus - Long-tailed Skipper
Burnsius oileus - Tropical Checkered-Skipper
Hylephila phyleus - Fiery Skipper
Polites vibex - Whirlabout
Atalopedes campestris - Sachem
Lerodea eufala - Eufala Skipper
Panoquina panoquin - Salt Marsh Skipper
Panoquina ocola - Ocola Skipper

Alice Clark, Lugoff, Kershaw Co., 26 Oct 2020

Nymphalidae
Heliconius charithonia - Zebra Longwing, **county record**

Donald Hicks, North Charleston, Charleston Co., 27 Oct 2020

Nymphalidae
Heliconius charithonia - Zebra Longwing
Asterocampa celtis - Hackberry Emperor

Marcie Daniels, Bear Island, Colleton Co., 30 Oct 2020

Nymphalidae
Anartia jatrophae - White Peacock

Merle Shepard, Charleston peninsula, Charleston Co., 21-28 Jul 2020

Gracillariidae
Phyllocnistis citrella - reared from leaf mines in *Citrus* sp., large outbreak throughout area, **state record**

Brian Scholtens, Francis Marion NF, off Halfway Creek Rd., Charleston Co., 17 May 2020

Megalopygidae
Megalopyge lacyi - 2nd state record
Tortricidae
Cydia ingens
Archips magnoliana - 2nd state record
Crambidae
Chilo plejadellus
Pyralidae
Pococera melanogrammos
Salebriaria turpidella
Peoria bipartitella
Peoria roseotinctella
Homosassa ella
Geometridae
Macaria pustularia
Digrammia eremiata
Iridopsis pergracilis
Hypagyrtis esther
Nepytia semiclusaria
Eusarca confusaria
Nemoria lixaria
Erebidae
Crambidia pallida
Pargara simplex
Noctuidae
Phytometra rhodarialis

Brian Scholtens, 710 New Market Dr., Charleston Co., 1 Jul-15 Aug 2020

Crambidae
Nacoleia charesalis - 8 specimens, introduced to FL, **state record**

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

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 4th Quarter 2020 Southern Lepidopterists' Society Texas State Coordinator Report:

Numbers of species and individuals are still low in many parts of the state. Texas is still in the grips of ongoing drought. For example, Bexar County is 11" below normal for 2020. Far west, Trans-Pecos and Uvalde-Zavala counties are listed in exceptional (highest intensity) class.

Scattered spring and summer rains and a hurricane brought some temporary relief. Freezing temperatures were recorded on northern border to and including the northern hill country in early November from a Canadian breakout. That has stopped any lepidopteran presence or activity for balance of this year.

Butterfly species from northern Mexico and lower Rio Grande valley are invading northward through the state and beyond in late summer and fall. This pattern is returning after an absence of several years. Areas with rivers, running streams, blossoming plants and trees have provided some uncommon occurrences.

In lieu of receiving zero contributions for this report, the following are noted from TX-BUTT listserve and iNaturalist app sites.

(County in parentheses)

28 Sep '20, East-Mexican White-Skipper, King Ranch (Kleberg)

19 Oct '20, Blue Metalmark, King Ranch (Kleberg)

19 Oct '20, Erichson's White-Skipper, Uvalde (Uvalde)

15 Nov '20, Julia Heliconian, Leakey (Real)

15 Nov '20, Erato Heliconian, National Butterfly Center, Mission (Hidalgo)

15 Nov '20, Isabella's Heliconian, National Butterfly Center, Mission (Hidalgo)

15 Nov '20, Florida White, Laredo (Webb)

8 Nov '20, Marius Hairstreak, National Butterfly Center, Mission (Hidalgo)

14 Nov '20, Isabella's Heliconian, Mission (Hidalgo)

20 Nov '20, Purple-washed Skipper, Canyon Overlook Park (Comal)

13 Nov '20, Silver-banded Hairstreak, Mitchell Lake Audubon Center on Crucita, *Chromolaena odorata*. Bexar County Texas, Photo by Patty Pasztor.

Silver-banded Hairstreak

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Moths for Trinity River National Wildlife Refuge
Liberty County, TX
Aug 1, 2020 through Oct 31, 2020
Submitted by 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.

ACROLOPHIDAE
Acrolophus heppneri Aug, Sept, Oct
Acrolophus mycetophagus Sept, Oct
Acrolophus popeanella Aug, Sept, Oct

ATTEVIDAE
Atteva aurea Aug, Sept, Oct

AUTOSTICHIDAE
Glyphidocera juniperella Oct
Glyphidocera lactiflosella Aug, Sept
Taygete gallaegenitella Aug

BATRACHEDRIDAE
Homaledra sabalella Aug

BLASTOBASIDAE
Blastobasis sp. Aug, Sept, Oct
Pigritia sp. Aug

COLEOPHORIDAE
Coleophora querciella Aug

COSMOPTERIGIDAE
Anatrachyntis sp. Oct
Cosmopterix damnosa Oct
Euclemensia bassettella Aug, Sept, Oct
Pyroderces albistrigella Sept
Triclonella bicoloripennis Aug, Sept, Oct

COSSIDAE
Givira anna Sept
Givira arbeloides Aug, Sept

CRAMBIDAE
Achyra rantalis Aug, Sept
Aethiophysa invisalis Aug, Sept, Oct
Anageshna primordialis Aug, Sept, Oct
Antigastra catalaunalis Oct
Argyria lacteella Aug, Sept, Oct
Ategumia ebulealis Sept, Oct
Chrysendeton medicinalis Aug, Sept
Cnaphalocrocis trapezalis Aug, Oct
Condylorrhiza vestigialis Oct
Crambus satrapellus Sept, Oct
Crambus quinquareatus Sept, Oct
Desmia subdivisalis Aug
Diacme adipaloides Aug
Diaphania modialis Oct
Diasemiodes nigralis Sept
Diasemiopsis leodocusalis Sept, Oct
Diastictis fracturalis Aug, Sept, Oct
Diatraea evanescens Aug, Sept
Dicymolomia julianalis Aug, Oct
Elophila gyralis Oct
Elophila obliteralis Aug, Sept, Oct
Elophila tinealis Aug, Sept, Oct
Eoreuma densellus Oct
Epipagis fenestralis Aug, Sept, Oct
Euchromius ocelleus Aug, Sept, Oct
Eudonia strigalis Sept
Fissicrambus sp. Aug, Sept, Oct
Glaphyria glaphyralis Aug
Glaphyria sesquistrialis Sept, Oct
Haimbachia squamulellus Aug
Herpetogramma bipunctalis Sept
Herpetogramma phaeopteralis Aug, Sept, Oct
Herpetogramma theseusalis Oct
Hyalorista taeniolalis Aug, Oct
Hymenia perspectalis Aug, Sept, Oct
Lamprosema victoriae Aug, Sept
Leptosteges parthenialis Aug, Sept
Lineodes fontella Sept
Lineodes integra Aug, Oct
Microcrambus biguttellus Aug, Oct
Microcrambus elegans Aug, Sept, Oct
Nomophila nearctica Aug, Sept
Oenobotys vinotinctalis Aug, Sept
Ostrinia penitalis Oct
Palpita freemanalis Aug
Palpita magniferalis Aug, Sept
Palpita quadristigmalis Aug
Parapediasia teterrella Aug, Sept, Oct
Parapoynx allionealis Aug, Sept, Oct
Pilocrocis ramentalis Sept, Oct
Polygrammodes flavidalis Sept
Pyrausta acrionalis Sept, Oct
Pyrausta laticlavia Aug
Pyrausta tyralis Sept, Oct
Rupela tinctella Aug, Sept
Samea baccatalis Aug, Sept, Oct
Samea ecclesialis Aug, Sept, Oct
Samea multiplicalis Aug, Sept, Oct
Spoladea recurvalis Aug, Sept, Oct
Udea rubigalis Sept, Oct
Uresiphita reversalis Aug, Oct
Urola nivalis Aug, Sept, Oct

DEPRESSARIIDAE
Antaeotricha leucillana Aug, Sept
Antaeotricha schlaegeri Aug, Sept
Eupragia hospita Sept
Psilocorsis sp. Aug

EREBIDAE
Abablemma brimleyana Aug, Sept, Oct
Anomis illita Sept
Anticarsia gemmatalis Aug, Sept, Oct
Apantesis phalerata Sept, Oct
Argyrostrotis deleta
Arugisa lutea Sept
Caenurgia chloropha Aug, Sept, Oct

Catocala agrippina Aug
Catocala carissima Oct
Catocala maestosa Sept, Oct
Cisseps fulvicollis Aug, Sept, Oct
Cisthene plumbea Aug, Sept, Oct
Cisthene unifascia Aug, Sept, Oct
Crambidia pallida Aug, Sept, Oct
Cutina arcuate Aug
Cutina albopunctella Aug, Sept
Dasychira meridionalis Aug, Sept, Oct
Dasychira tephra Oct
Estigmene acrea Sept
Euerythra phasma Aug
Gabara distema Aug, Sept
Halysidota sp. Aug, Sept, Oct
Hemeroplanis floccalis Sept, Oct
Hypena degesalis Sept, Oct
Hypena manalis Oct
Hypena minualis Oct
Hypena scabra Aug, Sept, Oct
Hypercompe scribonia Aug
Hyphantria cunea Aug, Sept, Oct
Hypoprepia fucosa Aug, Sept, Oct
Hypsoropha hormos Aug, Sept
Idia americalis Aug, Oct
Isogona tenuis Aug, Sept
Lascoria ambigualis Sept
Lesmone detrahens Aug, Sept
Macrochilo hypocritalis Sept
Metalectra discalis Aug
Mocis latipes Oct
Mocis marcida Sept, Oct
Nigetia formosalis Sept
Ommatochila mundula Sept, Oct
Orgyia leucostigma Aug
Pagara simplex Sept, Oct
Palthis asopialis Aug, Oct
Panopoda carneicosta Aug, Sept, Oct
Panopoda rufimargo Sept
Phyprosopus callitrichoides Aug
Plusiodonta compressipalpis Sept
Pyrrharctia isabella Sept
Scolecocampa liburna Sept
Selenisa sueroides Sept, Oct
Simplicia cornicalis Oct
Spilosoma virginica Sept, Oct
Tetanolita floridana Sept, Oct
Tetanolita mynesalis Oct
Utetheisa ornatrix Oct
Virbia laeta Aug, Sept, Oct
Zanclognatha sp. Aug

EUTELIIDAE
Paectes abrostoloides Sept

GELECHIIDAE
Anacampsis fullonella Aug
Anacampsini New Genus/Species - 420495.97 Aug
Aristotelia corallina Aug, Oct
Battaristis undescribed - Battaristis n. sp. - 420470.96 Aug, Sept
Filatima biminimaculella Aug
Helcystogramma chambersella Sept
Mesophleps adustipennis Oct
Monochroa sp. Aug, Sept
Neodactylota sp. (Possibly) Aug
Numata bipunctella Aug, Oct
Polyhymno luteostrigella Aug, Sept
Stegasta bosqueella Aug, Sept
Untomia albistrigella Aug, Sept, Oct

GEOMETRIDAE
Chlorochlamys chloroleucaria Sept, Oct
Dichorda iridaria Aug
Digrammia gnophosaria Aug, Oct
Disclisioprocta stellata Oct
Eulithis diversilineata or *gracilineata* Complex Aug, Oct
Eupithecia miserulata Aug, Sept, Oct
Eusarca confusaria Oct
Eutrapela clemataria Sept
Glenoides texanaria Aug, Sept
Hypagyrtis esther Sept
Idaea celtima Sept
Idaea demissaria Sept
Idaea tacturata Aug, Sept, Oct
Ilexia intractata Sept
Iridopsis defectaria Aug, Oct
Iridopsis vellivolata Sept, Oct
Leptostales laevitaria Sept, Oct
Leptostales pannaria Aug, Sept, Oct
Lobocleta ossularia Aug, Sept, Oct
Lophosis labeculata Sept, Oct
Lychnosea intermicata Aug, Sept, Oct
Macaria aequiferaria Sept, Oct
Melanochroia chephise Aug, Oct
Mellilla xanthometata Aug
Metarranthis homuraria Aug
Nemoria elfa Aug, Sept, Oct
Nemoria lixaria Sept, Oct
Odontoptila obrimo Aug
Pero zalissaria Oct
Plagodis fervidaria Aug
Pleuroprucha insulsaria Sept, Oct
Prochoerodes lineola Aug
Psamatodes abydata Aug, Sept
Scopula aemulata Sept
Scopula lautaria Sept
Synchlora frondaria Oct
Tornos scolopacinaria Aug, Sept

GLYPHIPTERIGIDAE
Drymoana blanchardi Oct
Diploschizia impigritella Oct

GRACILLARIIDAE
Bucculatrix angustata - Tentative ID only, not dissected, Aug

Bucculatrix sp. Sept
Cameraria sp. Oct
Caloptilia triadicae Aug, Sept, Oct
Neurostrota gunniella Aug, Sept

LASIOCAMPIDAE
Artace cribrarius Aug, Sept
Heteropacha rileyana Sept
Tolype sp. Aug, Sept

LIMACODIDAE
Apoda y-inversum Aug, Sept, Oct
Euclea delphinii Aug, Oct
Heterogenea shurtleffi Sept
Isa textula Oct
Isochaetes beutenmuelleri Aug
Monoleuca semifascia Aug
Natada nasoni Aug
Phobetron pithecium Aug, Sept, Oct
Prolimacodes badia Aug, Sept, Oct

MEGALOPYGIDAE
Megalopyge opercularis Aug, Sept, Oct

MIMALLONIDAE
Lacosoma chiridota Aug, Sept

NOCTUIDAE
Acronicta afflicta Aug, Sept
Acronicta longa Aug
Acronicta ovata Oct
Acronicta rubricoma Sept, Oct
Acronicta vinnula Aug
Agrotis ipsilon Oct
Amyna stricta Aug
Anicla infecta Sept
Argyrogramma verruca Aug
Bagisara repanda Sept, Oct
Bellura densa Aug, Oct
Callopistria floridensis Oct
Charadra deridens Aug, Sept
Charadra dispulsa Aug
Chrysodeixis includens Aug, Oct
Condica mobilis Sept, Oct
Condica sutor Sept, Oct
Condica videns Aug, Sept, Oct
Ctenoplusia oxygramma Aug
Cydosia aurivitta Aug, Sept, Oct
Diphthera festiva Sept, Oct
Elaphria chalcedonia Sept, Oct
Elaphria nucicolora Aug, Sept
Eudryas unio Aug, Sept, Oct
Galgula partita Aug, Sept
Helicoverpa zea Aug, Oct
Homophoberia apicosa Aug, Sept, Oct
Leucania incognita Aug, Sept, Oct
Marimatha nigrofimbria Aug, Sept, Oct
Micrathetis triplex Oct
Mythimna unipuncta Aug, Oct
Ogdoconta cinereola Aug, Sept, Oct
Ozarba nebula Aug, Sept
Phosphila miselioides Aug
Ponometia candefacta Aug
Properigea tapeta Sept
Raphia frater Aug, Sept
Schinia arcigera Oct
Schinia gracilenta Sept, Oct
Schinia rivulosa Sept
Schinia siren Sept, Oct
Schinia sordidus Sept
Schinia ultima Sept
Spodoptera dolichos Aug, Sept
Spodoptera exigua Aug, Oct
Spodoptera frugiperda Aug, Sept, Oct
Spodoptera latifascia Aug, Sept
Spodoptera ornithogalli Aug, Oct
Spragueia leo Aug
Tarache aprica Aug, Sept
Tripudia flavofasciata complex Aug, Oct
Tripudia quadrifera Sept
Tripudia rectangular Oct

NOLIDAE
Afrida ydatodes Aug, Sept, Oct
Baileya acadiana Aug
Garella nilotica Sept
Meganola minuscula Aug
Nola cereella Aug, Sept

NOTODONTIDAE
Clostera inclusa Aug
Datana integerrima Aug
Ellida caniplaga Sept
Heterocampa subrotata Aug
Lochmaeus bilineata Aug, Sept
Lochmaeus manteo Sept, Oct
Macrurocampa marthesia Sept
Misogada unicolor Aug
Nerice bidentate Sept
Paraeschra georgica Aug
Peridea angulosa Oct
Schizura concinna Sept
Schizura leptinoides Aug
Schizura unicornis Aug, Sept
Symmerista albifrons Sept, Oct

OECOPHORIDAE
Inga sparsiciliella Aug, Sept

PLUTELLIDAE
Plutella xylostella Aug, Sept

PSYCHIDAE
Cryptothelea sp. Aug, Sept, Oct
Oiketicus abbotii Aug, Sept

PTEROPHORIDAE
Pselnophorus belfragei Aug, Sept, Oct
Sphenarches anisodactylus Aug, Sept
Stenoptilodes sp. Sept, Oct

PYRALIDAE
Acrobasis exsulella Aug, Sept, Oct
Acrobasis texana Aug
Adelphia petrella Aug, Sept
Canarsia ulmiarrosorella Sept
Clydonopteron sacculana Aug, Sept, Oct
Dioryctria pygmaeella Aug
Epipaschia superatalis Aug
Eurythmia angulella Aug
Galasa nigrinodis Sept
Honora mellinella Oct
Hypsopygia binodulalis Aug, Sept, Oct
Hypsopygia nostralis Sept, Oct
Hypsopygia olinalis Sept, Oct
Laetilia coccidivora Aug, Sept, Oct
Macrorrhinia endonephele Aug, Sept, Oct
Parachma ochracealis Aug
Phycitodes reliquellum Oct
Pococera asperatella Aug
Sciota uvinella Aug
Tallula atrifascialis Aug
Tampa dimediatella Aug, Oct
Tlascala reductella Sept

SATURNIIDAE
Actias luna Aug, Sept, Oct
Antheraea polyphemus Aug, Sept
Automeris io Aug
Citheronia regalis Aug
Eacles imperialis Sept
Sphingicampa bicolor Aug, Sept, Oct

SCHRECKENSTEINIIDAE
Schreckensteinia erythriella Aug

SCYTHRIDIDAE
Scythris trivinctella Aug

SPHINGIDAE
Amorpha juglandis Aug, Sept
Ceratomia undulosa Aug, Sept
Darapsa myron Aug, Sept
Dolba hyloeus Sept
Enyo lugubris Aug, Sept, Oct
Eumorpha fasciatus Sept
Isoparce cupressi Aug, Sept
Manduca rustica Sept
Manduca sexta Aug
Xylophanes tersa Aug

TINEIDAE
Bucculatrix sp. Aug
Homostinea curviliniella Sept, Oct
Phaeoses sabinella Aug, Oct

TISCHERIIDAE
Tischeria sp. Aug, Sept

TORTRICIDAE
Acleris subnivana Aug
Aethes angulatana Oct
Aethes sp. Aug, Sept
Ancylis comptana Aug
Bactra furfurana Aug, Sept
Bactra verutana Sept, Oct
Cagiva cephalanthana Aug, Sept, Oct
Choristoneura rosaceana Aug
Clepsis peritana Aug, Sept
Cochylis hospes Aug
Coelostathma discopunctana Aug, Sept, Oct
Coelostathma placidana Oct
Cydia caryana Aug, Sept, Oct
Cydia latiferreana Aug, Sept
Ecdytolopha mana Aug, Sept, Oct
Epiblema boxcana Aug
Epiblema abruptana Aug, Sept, Oct
Epiblema otiosana Sept
Episimus argutana Aug, Sept
Eugnosta bimaculana Sept, Oct
Eugnosta erigeronana Sept
Eumarozia malachitana Aug, Sept
Gretchena bolliana Aug, Sept
Gymnandrosoma punctidiscanum Aug
Larisa subsolana Aug
Olethreutes sp. Aug
Paralobesia viteana Aug, Sept
Platphalonidia sp. Aug
Platynota exasperatana Sept
Platynota flavedana Sept, Oct
Platynota idaeusalis Aug, Sept
Platynota semiustana Aug, Sept, Oct
Pseudexentera sp. Oct
Pseudogalleria inimicella Aug
Rhopobota finitimana Aug
Rudenia leguminana Aug, Sept
Sonia constrictana Aug, Sept, Oct
Sparganothis sulfureana Aug, Sept, Oct
Sparganothoides lentiginosana Oct

ZYGAENIDAE
Harrisina americana Oct

MOTHS – TRINITY RIVER NATIONAL WILDLIFE REFUGE, LIBERTY COUNTY, TEXAS

BY
STUART MARCUS

The following moths were observed for the first time at Trinity River National Wildlife Refuge between August 1and October 31, 2020.

Filatima biminimaculella

Acleris subnivana
Bent-wing Acleris

Properigea tapeta

Odontoptila obrimo

Diasemiodes nigralis

Antigastra catalaunalis
Sesame Leafroller Moth

Phaeoses sabinella

Cutina aluticolor

Pyroderces albistrigella

Pyroderces albistrigella

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

Harry sends in the 2020 fall report for Virginia:

The absolute worst butterfly season that I can ever recall is ending with a return to somewhat normal numbers at the very end of the season. The Leesburg, VA. Community Gardens and nearby unkept wild patches seem to be the only area in northern Virginia with butterfly numbers of any kind.

Butterflies:

Eurytides marcellus – Loudoun Co.: Leesburg, Edwards Landing Park, 10/12/2020, one egg found on Paw Paw leaf, raising caterpillar as of this writing (H. Pavulaan). A mid-October date for an ovipositing female in northern Virginia is rather unusual.

Calycopis cecrops – Loudoun Co.: Leesburg, Balls Bluff Regional Park, Sept. through Oct. 23 (H. Pavulaan). Flying in considerable numbers in Potomac River deciduous woodlands. Most adults observed flying close to ground. There is no Sumac in this area. Females apparently prefer deciduous forest leaf litter for oviposition.

Burnsius communis – Loudoun Co.: Leesburg, Ida Lee Park, 10/22/2020, male courting a Hawaiian Beet Webworm Moth (*Spoladea recurvalis*).

Moths:

Haploa clymene – Loudoun Co.: Leesburg, Balls Bluff Regional Park, September through 11/10/2020, hundreds of larvae found on a great variety of plants, all within 50' of the Potomac River, none beyond. Larvae on: *Eupatorium perfoliatum* (Boneset), *Humulus japonicus* (Japanese Hops; escaped plants from a Hops farm upriver), *Perilla frustescens* (Beefsteak Plant), *Urtica dioica* (Stinging Nettle), *Paulonia tomentosa* (Empress Tree), *Platanus occidentalis* (American Sycamore).

Pyrausta niveicilialis – Loudoun Co. (COUNTY), Leesburg, Balls Bluff Regional Park. Host discovered: several larvae found feeding on flower buds of *Perilla frustescens* (Beefsteak Plant) throughout October. Larvae formed loose webbing around flowerbuds. One larva reared through to pupation in small, loosely woven cocoon in tissue paper, eclosed 11/16/2020 indoors. Would have likely overwintered in cocoon outdoors.

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