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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

STRANGE EXAMPLE OF AN ADULT MALE *AUTOMERIS IO* BY JOEL SZYMCZYK



On the morning of 11 May 2006, I collected an unusual specimen of *Automeris io* near Cottonwood, Houston County, Alabama. It's a location I check when I have an opportunity on my trips between work and home. The lights on a particular building have attracted some nice specimens of southeastern moths.

I saw this *io* on the wall, and my first thought was "it's a beater, all worn out." I took a closer look and something about it just seemed different. I zapped it and enveloped it without a close examination, because I was responding to an emergency at work and didn't have the moment to spare.

It was several days later when I had the chance to put the moth on a spreading board and found it wasn't tattered at all.

It was missing the majority of wing scales. I've shown photos of the specimen to several knowledgeable lep folks, and the opinions have been split between this being a developmental aberration or being environmentally caused, somehow.

A few points to consider are: the nearly perfect structural condition of the wings and wing edges; the small amount of scales evenly remaining along the outer wing margins; the shape and symmetry of the scaled (or scale-less) areas; the scales are absent on both the dorsal and ventral wing surfaces; the body shows no sign of scale abnormality; and the moth was about seven feet up a wall, suggesting the condition didn't hinder flight. The moth is of average size for the local population, as far as I've seen.

While I'm not qualified to make a determination, it seems likely the scale loss was not due to physical damage. In

other words, my opinion is this wasn't a normal moth that rubbed against something and shed some scales. The relative symmetry and lack of other damage leads me to think perhaps this moth's scales just weren't securely anchored to the wings. Somewhat analogous to Sphingids of the genus *Hemaris*, which have fully scaled wings upon eclosure, then lose large patches of scales during their first flight. Perhaps some unusual deviation in temperature or humidity, or contamination during juvenile stages put a wrench in the works.

Whatever the mysterious cause, it's quite unusual and a continual head-scratcher when I see it next to typical *ios* in my collection. This moth proves that it's worth taking a quick look around even when in a hurry, because you never know what you might discover.

(Joel Szymczyk, 96 Bradford Lane, Rehobeth, AL 36301; E-Mail: jszymczyk@sw.rr.com)

WANT AD

I received the following E-Mail on August 4, 2007, from Dr. Rodolphe Rougerie who is soliciting the following materials from the members of the Southern Lepidopterists' Society. I have printed his two brochures on pages 95-96 and 103 [The Editor].

Dear Sir:

I'm currently working as a postdoctoral fellow at the University of Guelph (Canada, Ontario) where I am supervising a global DNA barcoding campaign on sphingid moths. Our goal is to build, in close collaboration with expert taxonomists, a reference barcode library allowing species identification of world species and also helping taxonomists to address taxonomic issues by providing an additional data set.

The campaign is actually close to a 90% coverage of the world fauna, but there are still some North American species missing or under-sampled to date.

I have prepared a little handout with information about the campaign and a list of "most-wanted" taxa. Would it be possible to forward this call for contribution to the members of your society by the means of the Newsletter.

I look forward to hearing from you soon,

With my best regards,

Rodolphe

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<http://www.boldsystems.org>
All-Leps Barcode of Life:
<http://www.lepbarcoding.org/>

"Happiness is a butterfly, which when pursued, is always just beyond your grasp, but which, if you will sit down quietly, may alight upon you."

Nathaniel Hawthorne (1804 - 1864) was a 19th century American novelist and short story writer.

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The Southern Lepidopterists' Society is open to anyone with an interest in the Lepidoptera of the southern region of the United States. Annual membership dues:

Regular	\$20.00
Student	\$15.00
Sustaining	\$30.00
Contributor	\$50.00
Benefactor	\$70.00

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

Information about the Society may be obtained from the Membership Coordinator or the Society Website: www.southernlepsoc.org/

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WELCOME TO THE FOLLOWING
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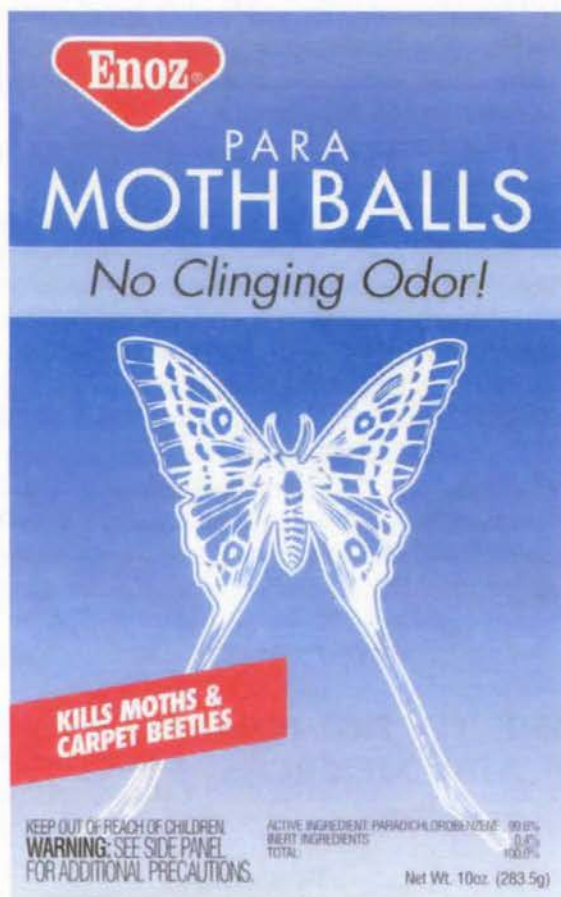
The following "Want Ad" is from an old, old friend, a fellow member of the SLS Society, who resides in Baltimore, Maryland. Please do not take his request too seriously [The Editor].

"WANT AD"



Eggs and/or cocoons wanted - Would anyone be able to provide living stages of this locally common species (see illustrations) apparently found in and around clothes closets and blanket boxes. Years of diligent searching in the Baltimore area have turned up nothing more than the usual puny tineids. I have piles of old rugs, sweaters and blankets that I am willing to sacrifice if I can just get some livestock of this elusive species. Please contact:

Robert S. Bryant,
522 Old Orchard Rd.
Baltimore, MD 21229-2410



"In nature a repulsive caterpillar turns into a lovely butterfly. But with humans it is the other way around: a lovely butterfly turns into a repulsive caterpillar."

Anton Chekhov (1860 – 1904) was a short story writer and playwright. He was also a practicing doctor of medicine. He once referred to his two roles in life as: *"Medicine is my lawful wife,"....."and literature is my mistress"*.

TITIAN RAMSAY PEALE

Titian Ramsay Peale (born November 2, 1799; died March 13, 1885) was a noted American artist, naturalist, entomologist and photographer. He was the sixteenth and youngest son of noted American naturalist Charles Willson Peale. He was named Titian Ramsey Peale after a brother who died in the yellow fever epidemic of 1798.

Peale was first exposed to the study of natural history while assisting his father on his many excursions in search of specimens for the Peale Museum. The family moved to Germantown, Pennsylvania, outside of Philadelphia, where he began collecting and drawing insects and butterflies. Like his older brothers, Peale helped his father in the preservation of the museum's specimens for display, which included contributions from George Washington, Thomas Jefferson, and the Lewis and Clark Expedition.

His drawings were published in Thomas Say's *American Entomology* as early as 1816, and he was soon after elected to the Academy of Natural Sciences.

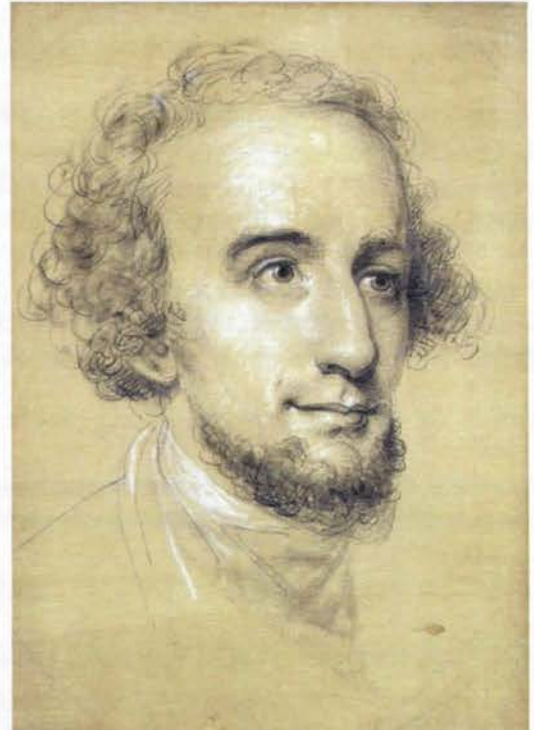
Peale took part in the 1817 expedition of the Academy of Natural Sciences to Florida and Georgia, together with Thomas Say, George Ord and William Maclure. He was assistant to Say on the expedition to the Rocky Mountains led by Stephen Harriman Long in 1819. The collection submitted to the Academy of Natural Sciences in Philadelphia from this expedition included 122 drawings by Peale. He acquired a wild turkey for the museum's collections.

Peale provided illustrations for Say's *American Entomology* (1824-1828) and Charles Lucien Bonaparte's *American Ornithology* (1825-1833). He also undertook a collecting expedition to Florida on behalf of Bonaparte.

In 1831, Peale published a pamphlet known as *Circular of the Philadelphia Museum: Containing Direction for the Preservation and Preparation of Objects of Natural History*. The Peale museum continued to gain a worldwide reputation.

Peale developed an effective method for storing butterflies in glass-fronted cases. In this novel observation case he pinned the specimens to a piece of cork that was glued to the glass bottom. In this way both the dorsal and ventral parts of the specimen could be observed in the sealed case. Parts of his collection have been preserved until the present day. His meticulous collection of over 100 separate butterfly species was often praised for the brilliance and vibrancy of the insects' colors.

In 1838, two years after Charles Darwin had returned from his voyage on the *Beagle*, Peale took leave from his work at the museum to sail aboard the *Peacock* as chief naturalist for the United States Exploring Expedition, 1838-1842, led by Lt. Charles Wilkes. This expedition traveled to places as far away as Fiji, the Philippines, the northwest Pacific Coast and California. As chief naturalist, he collected and preserved various specimens of natural history, many of which he packed and shipped back to the museum.



Titian Ramsay Peale (1799-1885). This image of TR Peale is at the National Portrait Gallery: Artist is Titian Ramsay Peale II, possibly aided by Rembrandt Peale (1778-1860). Date of work: c. 1845; medium: pencil, chalk and charcoal on colored paper. Owner: National Portrait Gallery, Smithsonian Institution.



Titian Ramsay Peal (1799-1885)

Unfortunately, a shipwreck in the mouth of the Columbia River destroyed many of his collected specimens. Further problems arose when he and Wilkes disagreed over credit of the many scientific discoveries and the future publications of these discoveries. Peale's post-expedition report, *Mammalia and Ornithology* (1848), was suppressed due to objections by Wilkes and John Cassin. Cassin was hired to produce a corrected volume, which was published in 1858.

On May 1, 1843, financial pressures forced Peale to sell the bankrupt museum at a sheriff's sale to Isaac Brown Parker. Then Peale went on to work for the U.S. Patent Office in 1849 and he remained in the Patent Office until his retirement in 1873. During this latter part of his life, he became a pioneer in American photography. Peale was a founding member of the Amateur Photographic Exchange Club, the first in the United States.

Peale's work on insects, *The Butterflies of North America*, was never published, although the manuscript still resides at the American Museum of Natural History in New York. (Four drawings representative of Peale's art work are shown on page 104.) Titian Ramsay Peale died in Philadelphia in 1885.

Sources

Wikipedia, the free encyclopedia: http://en.wikipedia.org/wiki/Titian_Peale

American Philosophical Society: <http://www.amphilsoc.org/library/mole/p/pealetr.htm>

A NEW SOUTHERN LEPIDOPTERISTS' SOCIETY INITIATIVE: *PROJECT PALAMEDES* BY MARC C. MINNO

Dear members of the Southern Lepidopterists' Society (SLS), if any butterfly is symbolic of the southeastern U.S. it is the Palamedes Swallowtail. Laurel Wilt is killing the larval host plants of the Palamedes Swallowtail and the Spicebush Swallowtail in Florida, Georgia, and the Carolinas (see article in this issue, page 92). This disease and its vector, the Red Bay Ambrosia Beetle, is spreading rapidly and will likely, eventually occupy much of the current range of the Palamedes Swallowtail and perhaps beyond.

We need to document the spread of Laurel Wilt and its effect on our laurel-feeding swallowtails. Similar to Charlie Covell, who proposed *Project Ponceamus*, to study the Schaus' Swallowtail in 1977, I am proposing *Project Palamedes* as a coordinated SLS research program in which every member of the SLS can participate. Within our region, get out and record the number of Palamedes and Spicebush swallowtails as often as you can and in as many places as they occur. Submit counts of these butterflies and locations of trees dying of Laurel Wilt to me at mminno@bellsouth.net. Counts should include the date, location (state, county, site name, general coordinates if available), time spent searching (minutes), number of searchers, general weather conditions, and the number of adults observed. We will publish these data on a regular basis in the Southern Lepidopterists' News.

REFERENCE TO THE "MOTH" IN CLASSICAL LITERATURE:

" 'Well,' continued the Tin Woodman, 'the old woman had an idea that the Powder in the bottle must be moth-powder, because it smelled something like moth-powder; so one day she sprinkled it on her bear rug to keep the moths out of it.' She said, looking lovingly at the skin: 'I wish my dear bear were alive again!' To her horror, the bear rug at once came to life, having been sprinkled with the Magic Powder; and now this live bear rug is a great trial to her, and makes her a lot of trouble.' "

L. Frank Baum, *The Road to Oz*, Chapter 17: The Royal Chariot Arrives

Source - The Free Library by Farlex: <http://baum.thefreelibrary.com/The-Road-to-Oz/17-1#moth>

OLEANDER - AN OVERLOOKED BUTTERFLY NECTAR SOURCE?

BY
JOHN A. HYATT

It seems to be common knowledge among lepidopterists that many flowering plants are little-utilized as nectar sources by butterflies, and near the top of the list of useless flowers comes the common oleander shrub, *Nerium oleander*. The author would like to suggest that this isn't necessarily always the case, and that in certain circumstances oleander can be extensively visited by butterflies.



John Hyatt collecting front-porch *Eurystrymon favonius* on *Nerium oleander*.

In 1996 I began using a vacation cottage on the coast of Georgia, in McIntosh Co. near the village of Meridian (this is close to Darien, about midway between Savannah and Jacksonville). The house sits on a small island surrounded by salt marsh and tidal rivers; the intracoastal waterway and open sea are visible from the front porch - as are the tops of several large oleander shrubs (both pink and white varieties). Several years of occasional observation from the porch swing have convinced me that butterflies do occasionally, and on some days frequently, take nectar from oleander flowers. And I don't mean that butterflies just stop for a brief moment's examination and then go on their way - I see butterflies staying on a flower with proboscis extended for

10-20 seconds, then moving to another flower, and so forth.

The best season for butterflies on oleander seems to be mid-May. This is a time in south Georgia when little else is in flower, and several hairstreak species are at their peak emergence. Almost every year since about 2000 (the oleanders were too short to easily observe from the porch swing before then) I have seen hairstreaks on the flowers. *Eurystrymon favonius* is the most frequent visitor, but I have also noted *A. halesus*, *S. cecrops*, and *S. melinus* there. Other species which visit the oleanders include *P. palamedes*, *P. asterias*, *B. philenor*, *P. sennae eubule*, *U. proteus*, *E. clarus*, *P. panoquin*, and *H. phyleus*. Oddly enough, the ever-present *A. vanillae* has never been observed on oleander flowers, nor has *H. charitonius*.

Spend a few moments in a really close examination of a big oleander in hairstreak country some May - you might be surprised what you can find there. Oleanders are not as good as bidens or a chinquapen tree, but the butterflies do come to them!

(John A. Hyatt, 5336 Foxfire Place, Kingsport, TN 37664; E-Mail: jkshyatt@aol.com)

The **largest butterfly** (total wing surface area) in the world is the Queen Alexandra Birdwing (*Ornithoptera alexandrae*), a resident of New Guinea. It's wingspan is up to 12.5 inches, the male being much smaller than the female.

ALYPIA OCTOMACULATA (FABRICIUS, 1775) IN LOUISIANA
 BY
 VERNON ANTOINE BROU JR.

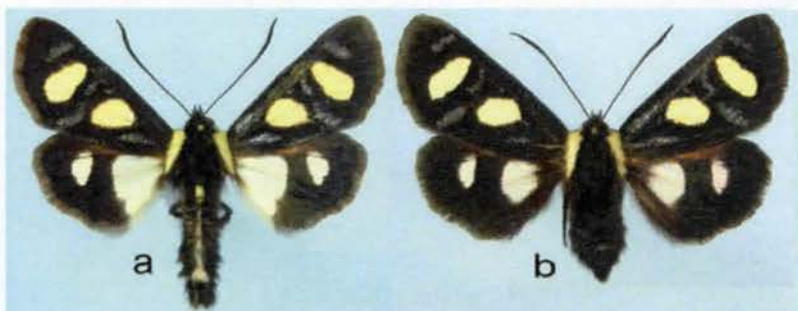


Fig. 1. *Alypia octomaculata*: a. male, b. female.

In the latest checklist (Hodges, *et. al.*, 1983) 26 species of *Agaristinae* are listed of which ten species of the genus *Alypia* Hbn. are included. One species, *Alypia octomaculata* (F.) is known to occur in Louisiana (Fig. 1). This species is active day and night. *A. octomaculata* has two annual broods in Louisiana. At the time of the initial brood which peaks in March, adults fly to flowers of sweetleaf,

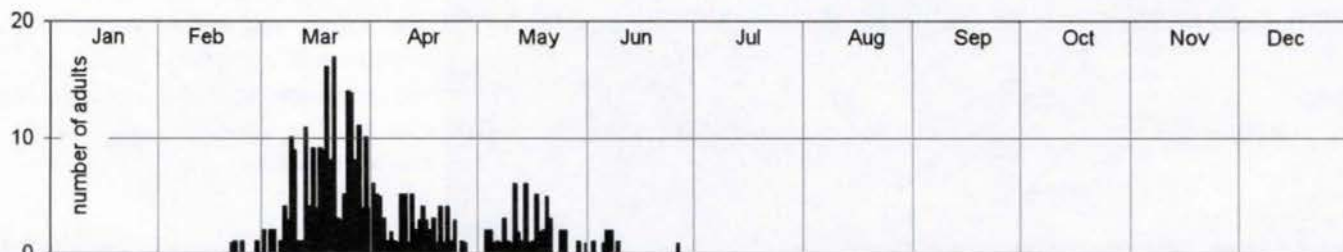


Fig. 2. Adult *A. octomaculata* captured at sec.24T6SR12E 4.2 mi. NE of Abita Springs, Louisiana. n = 335.



Fig. 3. Parish records for *A. octomaculata*.

Symplocos tinctoria (Garden) L'Her in bright sunshine much of the day. Heppner (2001) lists *octomaculata* to range: Nova Scotia to Florida and South Dakota to Texas. Also, Heppner lists *Alypia wittfeldii* H. Edwards to occur Florida to Texas. Wagner (2005) reports larvae of both species feed on grape, and Heitzman (1987), Wagner (2005), and Covell (2005) report *octomaculata* on grape and virginia creeper.

In Louisiana, *octomaculata* has two annual broods (Fig. 2). All specimens illustrated in Fig. 2 were captured using ultra-violet light traps. The parish records are illustrated in Fig. 3.

Two female specimens from St. John the Baptist (May, 1978) (Fig. 4a) and St. Tammany (May, 2004) (Fig. 4b) parishes display markings distinct from *octomaculata*. Whether these represent variants of *octomaculata* or two unknown species is unclear.

Literature Cited

Covell, Jr., C.V. 2005. *A Field Guide to the Moths of Eastern North America*. Virginia Mus. Nat. Hist. spec. pub. No. 12. xv + 496pp., 64 plates.
 Heitzman, J. R. & J. E. Heitzman. 1987. *Butterflies and Moths of Missouri*. Missouri Dept. of Conservation, 385 pp.



Fig. 4. Undetermined *Alypia* females.

ALYPIA OCTOMACULATA (FABRICIUS, 1775) IN LOUISIANA
 BY
 VERNON ANTOINE BROU JR.

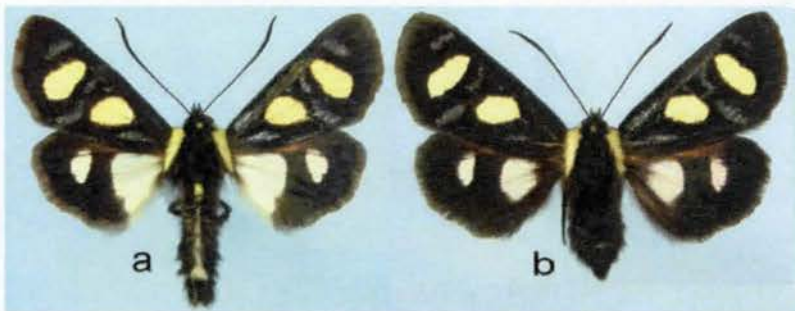


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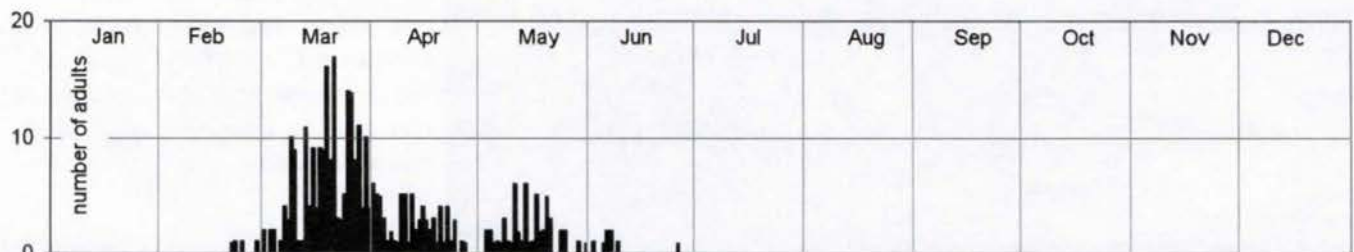


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Fig. 4. Undetermined *Alypia* females.

- Heppner, J. B. 2003. *Arthropods of Florida and Neighboring Land Areas*, vol. 17: Lepidoptera of Florida, Div. Plant Industry, Fla. Dept. Agr. & Consum. Serv., Gainesville. x + 670 pp., 55 plates.
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(Vernon Antoine Brou Jr., 74320 Jack Loyd Road, Abita Springs, Louisiana USA; E-Mail: vabrou@bellsouth.net)

A FRIENDLY RESPONSE TO 'LETTER TO THE EDITOR'
BY
DAVID FINE

I am writing in response to Mr. Lawrence Hribar's 'LETTER TO THE EDITOR' in the June of 2007 issue of the Southern Lepidopterist's News Letter. I must admit that I was shocked to open the last addition to see that my previous two articles sparked such emotion. I can assure both Mr. Hribar and all of the Southern Lepidopterist Society readers that I certainly did not mean to convey any negative intentions towards anyone or any agency nor have I ever wished for anything that I have written to offend anyone. Due to the nature of Mr. Hribar's response to certain comments I made in these previous articles, it is blatantly obvious that I have offended him and who knows how many other readers. The last thing I want any of our readers to think of me as is an antagonist. This certainly was the furthest thing from my intentions. Truly and honestly, if I had known that my passing comments would offend anyone at all, I would not have made them.

So I wish to offer a most sincere apology to Mr. Hribar and anyone else who has taken any offense to any of my writings. My desire for writing is to inform my colleagues and friends of my findings and to provide some fun and easy reading to those who so choose to put up with my style of writing and also to create new relationships with those who have interest in the butterflies and moths of my area. If anyone ever wishes to contact me regarding anything that I write, or anything else regarding butterflies and moths of South Florida, please feel free to contact me by either E-mail or phone. I truly appreciate you letting your concerns be known in the Southern Lepidopterists Society Newsletter as well, instead of keeping your comments and concerns in an outside group where I would perhaps not become aware of them. I applaud your conviction to challenge my analysis with me and the readers of this news letter. I do not read "Wing Beats Magazine" and these matters would have, perhaps, never been brought to my attention. I have not read the "Wing Beats" article that you wrote, but I would hope that you would share my sentiments with the readers of that magazine as well.

This incident has caused me to become more aware of what I am saying and the choice of words that I use. For instance, to say that collecting in the Keys is "worthless" for any reason, is probably not the best choice of words. That was a statement made with emotion from dozens and dozens of trips to the Keys from May to October that have proven to be "worthless" for me because few, if any, unusual or endemic species have been encountered in areas of the Keys where permits are not needed for collecting during these months. Yes, there are various common species like *Dryas julia*, *Ascia monuste*, *Heliconius charitonius*, *Leptotes cassius*, and *Phoebis agarithe* that can be encountered just about anywhere at any time in the Keys. However, I can venture less than 5 miles from my home in Palm Beach County and easily find all 5 of these species and would indeed (especially with the price of gas these days) consider it to be a "worthless" trip to the Keys if my intention was collecting butterflies and these were all the species that I would see which has been the case time after time after time during the late Spring and Summer months. Unless a would-be collector has a permit to collect in a select few desirable areas, I certainly would not send a friend or fellow Lepidopterist to the Keys at this time of year to hunt for bugs either. However, "Worth" is in the eye of the beholder and I should not let my emotions bring out such negativity. These 5 species may be worth a trip for people from another state, so bring it on!! If you want to catch some fish or lobster in the Keys at this time if the bugs are not keeping you busy, I can certainly help point you to your fill in that arena. So to Mr. Hribar and others, I will promise that I will certainly take these matters into consideration in future articles.

At this point in time, I wish to inform all readers of my intention and qualifications for the work that I do in the

field. I am an amateur Lepidopterist. I have recently departed from my 'professional' status when I left Butterfly World to go into business with my father doing mold mitigation and drying buildings with water damage. I do not have a Ph.D. or a Masters degree. In fact, I am still a few classes away from completing my bachelor's degree in Organismic Biology at Florida Atlantic University. I have no affiliations aside from being a research associate for the Florida State Collection of Arthropods. I do not write for anybody or with any type of agenda. I do what I do because I absolutely love it. I love insects and taking time to observe them in the most intimate of ways. I enjoy the many relationships that I have built over the past 10 years or so through the Southern Lepidoptera Society, and sharing my findings with my friends and fellow enthusiasts. I write passionately and perhaps with more emotion than I should at times. I am obviously human and therefore fallible and welcome criticism to my writings.

I also do not wish to step on any toes in my writings, including that of the Florida Keys Mosquito Control District. **I am personally not opposed to spraying but in fact exceedingly enjoy the fruits of it and strongly encourage it**, for my family and I are also avid fishermen that frequent the Keys and enjoy sitting out on the docks with wet lines sipping on a beverage of choice without needing a blood transfusion from the swarms of salt marsh mosquitoes that would normally make such an outing literally impossible! For any of you who have not ventured into North Key Largo during the summer months, you cannot possibly understand the pure misery that even a well prepared outdoorsman, with all the deet you can buy, must endure to even step outside your vehicle during this time. Even if you have previously bathed in repellent, the mosquitoes here will keep a 6 inch distance from your body waiting for a bead of sweat to roll down some exposed skin removing the thin layer of protection keeping you from being attacked. I truly understand that the Florida Keys would not be able to function economically without the services of the Mosquito Control folks. It is safe to say that virtually nobody would ever go to the Keys if the mosquitoes were not kept in check.

I write about what I see. Take it for what you feel that it is worth. I have no fancy degree but I spend an incredible amount of time and energy in the field in Broward, Dade and Monroe Counties almost weekly studying these creatures that I love. I do not know of many people that have spent this amount of time in recent years studying butterflies and moths in South Florida and I say without hesitation that I feel that I am contributing to the best of my ability to advance the knowledge of these creatures as they exist at this time. In our ever changing environment down here, I am finding that writings that were published on Lepidoptera of South Florida only 10 or 20 years ago are quickly becoming in need of revision as habitats and species disappear and reappear. Much work needs to be done to keep us informed of the status of our Lepidoptera fauna in South Florida. This phenomenon will not slow down by any means as people continue to flock to South Florida. I am doing my best to stay active and report what I see in my travels.

I try to stay away from speculation whenever possible. The described articles are no exception. Both of these articles (Fine, D. 2006 'Spring Leps in Florida') and (Fine, D. 2007 'Immediate Effects of Hurricane Wilma on the Butterflies of South Florida') were written with much thought and care with intention of giving a reader a brief but broad overview of conditions and scenarios for butterflies in the State of Florida. In the 'Immediate Effects of Hurricane Wilma...' article, many topics were touched upon without going into excruciating detail. Specifics about my experiences with spraying and other factors were left out for the purpose of space.

I would like to address specifically a number of things brought up by Mr. Hribar. First of all, I wish to partially retract my statement in the 'Immediate Effects of Hurricane Wilma...' article when I said "The Keys were affected far less in recent storms than was the mainland..." I have come across some information since writing that article that I am in the process of revising that states otherwise. Apparently the Lower Keys endured a great deal further damage than I was aware of including great tidal surge that apparently completely covered most of Big Pine Key. It has been rumored that both *Anaea troglodyta* and *Cyclargus ammon* were eliminated from Big Pine Key because of the storm. After having surveyed the island a number of times since then, I would have to agree with that analysis. To Mr. Hribar, I am truly sorry to hear of your distress during the storm. I hope and pray that things have gotten as back to as normal as possible for you. My statement was based on my observations on Key Largo in the months following the storm as stated in the same paragraph... "We have seen little to no affects on the moth and butterfly populations in North Key Largo." I also added that I had not seen *Eunica tatila* since the storm and to this day, in many of the hammocks where I would see them, I have yet to encounter a single specimen of the Florida Purplewing in North Key Largo since February of 2005. Perhaps the storm has

something to do with it. Further investigation will have to take place to fully understand the dynamics of this species.

The rest of the arguments made by Mr. Hribar, I cannot help but to address further for I do not feel that I was dealt with very fairly and in one instance, a comment that I made was taken COMPLETELY out of its context. I will address these statements in more detail now and add some of my personal experiences which were not included in these previous articles.

1) Although my choice of word may not have been the most appropriate of words, I will hold fast to my sentiment that **COLLECTING** butterflies and moths in the Florida Keys is not a very exciting endeavor after the first or second week of May. For a hobbyist collector that has no permits, no affiliations and is just trying to come to Florida to collect a handful of butterflies and moths will be limited to collecting in populated areas of the Keys. Their choices for collecting sites will be limited to road sides, vacant lots and remnant patch hammocks that are still standing in between neighborhoods and strip malls. I hope that nobody has ANY objection to the fact that these heavily populated areas are well sprayed both by aerial methods and by the trucks that spray roadsides in and throughout populated areas. (I personally know that both of these methods are used because I personally have seen on many occasions, both planes and trucks spraying for mosquitoes in the Keys during these months.) They do not have access to the parks and refuges where healthy numbers of both species and specimens of these species can be seen all throughout the year. In these areas, Spraying is forbidden. I have reported in other articles that Bahia Honda State Park as well as Crocodile Lake National Wild Life Refuge contain wonderful numbers of butterflies and moths in the late spring and summer months. For an observer who has access to such areas, one can enjoy a great variety of species and specimens during the rainy season. My article, however, was attempting to help the amateur collector to find bugs in the Keys **LEGALLY**, and without access to sites like North Key Largo, Bahia Honda Key and Big Pine Key, collecting the species that draw a collector to this remote corner of the United States from mid May until October or so is virtually impossible. As I stated before, there are a select few species that thrive in the populated areas of the Keys throughout the year, however, these species can be taken on the mainland where other species can be encountered and is perhaps easier to obtain such species without controversy. There is no reason to send someone to the Keys during this time to collect butterflies and moths when they would be able to have a much more lucrative collecting trip in the Southern Mainland. That is what I meant by "worthless". As for the reason it is "worthless", I stated it is due to Mosquito spraying in the populated areas of the Keys. Mr. Hribar states emphatically, and quite poetically, that I have made some type of fallacy, and that it is due to precipitation fluctuations. He then quotes Dr. Minno's and Dr. Emmel's book '*Butterflies of the Florida Keys*' showing population fluctuations have to do with the rise and fall of precipitation levels. Please see point #2 for a combined response to these comments.

2) Mr. Hribar states the following: "*If there truly is a decline in butterfly numbers in the Florida Keys after April or May, it is just as likely due to their natural seasonal distribution as to any perceived relation to mosquito control activity.*" I do not in any way contest that butterfly and moth populations certainly are affected by precipitation levels. It is one of the most fundamental facts that a Lepidopterist of any kind learns once he or she begins to pursue these creatures. I have been on collecting trips, especially out west where my trip was devastated by drought as have I seen with my very eyes in the Keys when there is no rain for a period of time how things are affected. The lack of fresh water in this salty rocky climate makes for harsh conditions for plants here. You can see the hammock trees wilting while driving down the road during these times. It looks as though God forgot to turn the sprinklers on or something. At these times, it is dismal walking through the hammocks looking for butterflies and moths.

I wish for the reader to recognize something. My study is largely based on moth populations, not butterflies. Moths outnumber butterflies 5 to 1 in species yet get far less attention because, well, they are moths. They fly at night and are not fluttering in our faces in daylight hours like butterflies and to top it off, they are commonly thought of by many with a 'western' mind set, of being not 'pretty' and therefore do not deserve our attention. It always amazes me when I am approached by a curious person whom inquires of what you are doing with that net, to see the response depending on what your answer is. If it is butterflies you are seeking, many get up in arms about it and the first question is followed up by a series of others to pin-point your intentions. If your answer is 'moths' they typically turn away with little care. Some times you may even get a "good luck!" Every once in a while, if I am not in the mood to answer any questions, I will simply answer "beetles". This is the quickest way

to get someone to lose interest and leave you alone! (No offense to the Coleopterist, I actually love beetles as well.)

You will be hard pressed to find an article on the affects of mosquito spraying on moths of the Florida Keys while there have been countless studies, articles and writings on the affects of mosquito spraying on butterfly populations. I for one, and many of you might agree, believe that moths are fascinatingly beautiful and because they do outnumber butterfly species 5 to 1 and are perhaps a greater test case than are butterflies for defining the health of an environment, I found a study on affects of mosquito spray on these beautiful creatures to be very relevant and long overdue. If there are any Coleopterists out there that are so inclined to do such a study, it could dwarf mine in significance for there are far more beetle species than there are Lepidoptera.

The moth fauna of the Keys is of a tropical nature, not a temperate one like virtually the rest of the United States. Collectors of the tropics know that moth collecting and butterfly collecting (for diversity) usually do not coincide. I believe that the upward spike in moth populations are much more closely related to the level of precipitation in the wet season than are butterflies. The peak of rain activity is the best time to collect the greatest diversity of moths. Although butterfly abundance is certainly related to rainfall, they still exhibit a very seasonal appearance which varies from species to species. This is a very general way to approach this with there being exceptions on both sides, but in my opinion, mosquitoes and moths react in emergence due to a response to precipitation in a much more uniform way than do butterflies and mosquitoes.

I will point out, and comment on, however, Mr. Hribar's words "*it is just as likely*". To put the 'nail in the coffin', I am going to give a sneak preview to the work that I have been doing in North Key Largo for the last 3 years. I have been waiting to accumulate even more data before publishing any of this but in this scenario, for what is being discussed, I see no other possible explanation for the following results of my research than mosquito spraying strongly affects the Lepidoptera populations in areas where heavy spraying takes place. So now, I welcome my colleagues and friends of the Southern Lepidopterist's Society and whomever else may read this article to brain storm with me, perhaps add a piece to the puzzle to try and explain the following events.

It began in 1998 when I began making frequent trips to Key Largo in search of a variety of moths that could easily be collected by visiting gas stations, strip malls, and any other building that had bright florescent lighting at night and plucking them off of the walls. After spending the break of dawn collecting moths, butterflies would then be the next target for the remainder of the day. Month after month, year after year, I would visit the same locations hoping to find rarities like *Eupyrhroglossum sagra* resting on the walls of the Publix shopping center on mile marker 101 in Key Largo. After dozens of trips spanning 6 years or so, I began to notice this trend in populations of moths, and for the most part butterflies, that resulted in the months of May, June, July, August, September and most of October having poor to dismal numbers of species and specimens. As a matter of fact after 2 or 3 years, I simply stopped going to the Keys during this time (unless it was for fishing or lobstering) due to the fact that I would spend all day and lots of gallons of gas searching in vane for these rarities. Many trips would not produce a single interesting specimen!! That is no lie, no exaggeration. I have the data and the time and money invested in it and can say without hesitation that **COLLECTING** Leps in the Keys during these 6 months is... (you know the word).

After discussing these findings with some high ranking wildlife officials in the Keys (who wished to remain unanimous) I became aware of the spraying issue and how it affects the rest of the insect populations, as well as other wildlife populations during these months. A government biologist told me of a story where he was standing on the outskirts of the North Key Largo State Botanical Preserve and was watching a number of Cassius Blues circling a tamarind tree. He then saw a mosquito spraying air plane fly over head doing its thing. A few minutes later, he watched as a half a dozen Blue butterflies flopped around on the ground for about 30 seconds before inverting their wings and dying. Now, I was not there to witness this event nor can I vouch for its truth. One might also think that such a story from a biologist may veer my thinking which is why I hold the thoughts that I do today. Well, to tell you the truth, although I consider myself an environmentalist (that is that I love the environment and wish to learn more about it and wish to preserve what is left of it) I certainly do not consider myself to be an extremist for I see that some of the opinions and actions and arguments of extreme environmentalists, although well intentioned, can in some cases be equally as devastating to nature's cause as opposing views. So I am very leery of stories and comments like these because of the possible agenda from which they may be told.

Talking to these men did, however, cause me to at least investigate these possibilities further. In the Spring of 2004, I submitted a proposal to the Manager of Crocodile Lake National Wildlife Refuge in North Key Largo to conduct a comparative survey of the moth population fluctuations in the refuge with those of the rest of the Island where spraying occurs. Crocodile Lake National Wildlife Refuge is a beautiful stretch of 10 miles of hardwood and salt marsh, mangrove hammock on the west side of Card Sound Road (905) in North Key Largo. The East side of the street is the State park. There is no mosquito spraying to speak of conducted in this 10 mile stretch due to the sensitive nature of the animal species that live there except for occasional truck spraying on the few residential roads that exist on the east side of the road. This park along with the North Key Largo State Preserve is a major stronghold for the Federally Endangered Schaus Swallowtail as well as other endangered species like the Key Largo Wood Rat and a subspecies of the American Crocodile.

I wanted to test my growing suspicion that it is indeed the mosquito spray, not natural seasonal population fluctuations, that knock back moth populations in the city of Key Largo every year. So for the next 3 years, I would set out bucket light traps and mercury vapor light rigs in various regions of the National Wildlife Refuge as well as in the larger hammocks that I could find in the city of Key Largo where a layman can still collect butterflies (again which was the point of my article). I would also examine 9 of my favorite moth collecting sites (buildings with bright lights) in the city from mile marker 108 south to mile marker 88 and record the species and numbers of specimens seen. I would then compare the population fluctuations in the National Wild Life Refuge with those of the selected locations in Key Largo (the city). **NOTE: I can only vouch for the nine locations that I commonly visited in the city as well as the 2 locations that I have selected to place bucket traps in to survey IN KEY LARGO ONLY!** My experiment may have little to nothing to do with the moth populations on any other island, much less the lower Keys. I have spent virtually no time collecting moths south of the town of Tavernier (mile marker 88 to be exact).

I am basing my findings mainly on larger species of moths for the reason that at all of my 9 'city lights' locations, Mediterranean Gecko's quickly devour smaller species of moths and other insects that would otherwise be present. The main species involved were (but not limited to) Sphingids (*Protambulyx carteri*, *Xylophanes pluto*, *Xylophanes tersa*, *Enyo lugubris*, *Erinnyis ello*, *Cautethia grotei* and *Eupyrrhoglossum sagra*), Saturniids; (*Automeris io* and *Eacles imperialis*), Noctuids; (*Ascalapha odorata*, various *Melipotis* species, and *Xanthopastis timais*), Arctiidae; (*Halysidota cinctipes* and *Syntomeida epilais*). I targeted heavily the months of February, March, April, May, June and July. For three consecutive years, I found the exact, identical same phenomenon that leads me irrevocably and inescapably to the fact that mosquito spraying in the city was the main factor in the rapid decline in moth populations each year. My findings include the following:

A) Moth species and specimen populations slowly increased in the city throughout the winter and spring until approximately the middle of May when a very sharp drop-off occurs both in species and in numbers of species and remains literally 'nil' until the middle of October when you can begin to see specimens appearing again, slowly gaining in numbers throughout the rest of the fall, winter and early spring. These numbers of species and specimens peak in March and April. The sharp drop-off coincides perfectly with the beginning of the mosquito population boom as well as the beginning of spraying for those particular years. Coincidentally, in October when moths begin to show up again in any significant numbers in the city just so happens to coincide with the time when mosquito spraying begins to slow down.

B) Moth species and specimen populations in the Wild Life Refuge remained fairly stable throughout February, March and April with certain species appearing and disappearing with occasional bursts in populations showing a somewhat natural ecological balance throughout much of the spring until May when the rainy season begins to kick in. At this time, the amount of moths both in species and numbers of specimens of these species elevated dramatically. A noticeable increase of insect life visited my light sheets at the mercury vapor lights as well as in the bucket traps. In June, the numbers of moths increased again and then peaked in early July. July 1st, 2004, stands out in my mind as a day that stunned me with the amazing number of specimens at my lights in the refuge. It almost seemed like a day in the tropics yielding over 250 Sphinx and Saturnid specimens consisting of 17 species. Never have I had such a night of moth collecting in Florida before or since that day. In contrast, in the same night, in two bucket light traps in the city and at all 9 gas stations and strip malls, I took 4 Sphingids; 1 *Perigonia lusca*, 2 *Protambulyx carteri* and 1 *Enyo lugubris*. I have conducted this same test 21 times in the months of May, June, July and August and have had the exact, identical same result each and every time showing

a healthy and increasing number of species and specimens of these species in the refuge as opposed to a dismal showing of insect life at all in the city traps and building lights.

C. The sharp specimen and species drop-off in my city locations occurred simultaneously with the following:

- 1) An elevated rainfall
- 2) An elevated number of mosquitoes
- 3) An elevated amount of spraying activity
- 4) An elevated number of moths appearing at my lights in Crocodile Lake National Wildlife Refuge where there is little to no spraying

So now I ask the reader, is it a 'fallacy' of any kind to conclude based on my tedious work and the findings thereof (mind you the above is only a small sample of my findings) that the reason for the decline of moth populations in the City of Key Largo (where a layman would go collecting without permits) is due to the increase of mosquito spraying at that time? I must add that my northern-most city collecting site is less than 2 miles from one of my sites in the refuge where I collect moths during the spring and summer in high numbers. It is not like my samples are being taken on opposite ends of the county that there might be different rainfall amounts or that there may be different conditions that may affect these regions differently. Regardless of whether it is the beginning of rainy season or not, if rainfall or lack thereof affects the population of Lepidoptera on mile marker 107, then the affects of precipitation on populations on mile marker 109 should be somewhat similar.

The Circle K gas station on mile marker 108 is only an eighth of a mile from the border of Crocodile Lake National Wild Life Refuge and less than 2 miles from one of my favorite collecting spots in the refuge, and on the same night during the rainy season a small 15 watt black light bulb can fill the bottom of a bucket with insects, and this gas station, only 1.8 miles away, with 10's of thousands of watts worth of mercury vapor and fluorescent lights over white walls and concrete flooring will exhibit only the smallest handful of insects (if any at all). I cannot think of another possible variable that may be the cause of this phenomenon. This gas station is known nationwide by moth collectors as being one of the best places to stop and check for moths in the Northern Keys during the winter and early spring. You have to get there before the sun comes up and beat the blackbirds to the moths but they are almost always there up until this specific period of time, usually during the month of May after which it is actually a rarity to find a single moth at the site.

Although I do not have as many numerical statistics associated with the following statements, I have found the same to be true regarding butterflies. On August 15 – 17th of this year, my wife and I spent some time in the Keys. It was primarily a fishing trip but in light of this article being written, I brought with me a bucket light trap which I set out in the refuge. I woke up early on the 16th and 17th and checked the 9 gas station and strip mall sites. I found a total of 2 moths for the two days; 1 *Protambulyx carteri* and 1 *Erimmyia ello*. In my light trap, which I placed about 4 miles north of the city/refuge boarder, I had a total of 125 *Cautethia grotei*, 7 *Protambulyx carteri*, 4 *Xylophanes pluto*, 4 *Perigonia lusca*, a slew of other Noctuids and Pyralids as well as dozens of a large unidentified Geometrids. I also had a healthy number of other insects including dozens of cicadas, grasshoppers, dragonflies, and longhorn beetles. The only insect other than a moth that I found in the city lights were two dragonflies at the Publix on mile marker 101. After retrieving the traps, I took a half an hour each morning to count the butterflies that I saw in the refuge. Although I cannot know for certain how many of these specimens I may have re-counted, I certainly saw dozens of *Dryas julia*, dozens of *Heliconius charitonius*, dozens of *Agraulis vanillae* each day as well as an amazing number of the hammock skipper *Polygonia leo*, perhaps upwards of 50 each day. I also saw many *Leptotes cassius*, 4 *Appias drussilla*, 8 *Ascia monuste*, 16 *Phoebis agarithe*, 2 *Electrostrymon angelia*, 4 *Papilio cressphontes*, and 3 *Hylephila phyleus*. All these were seen in a total of 1 hour of counting across two days. I spent the rest of my time in Key Largo the city and ventured about various hammocks counting every specimen that I could find to give my little study as much credibility as I possibly could. I spent a total of 5 hours observing butterflies across these days and found the following numbers of butterflies; I did find a Jamaican Dogwood tree that had 3 *Polygonia leo* circling it. I saw 1 *Heliconius charitonius*, 4 *Dryas julia*, 3 *Agraulis vanillae*, 1 *Ascia monuste* and 2 *Phoebis agarithe*. These are hardly impressive numbers.

This has been the repeating case for me while searching for butterflies in the Keys during the summer months. As

I previously stated, I would not travel the 2 hours from my house to collect here after mid-May specifically with butterflies in mind but if I would travel south for a fishing trip or would find myself in the Keys during these months for other reasons, I would always bring a net in hopes of finding an interesting species. I would frequently examine areas like vacant lots and patch hammocks in Key Largo, West Summerland Key or the *Suriana maritima* trees along the roadsides to try and pick up a *Strymon martialis*, or visit many of my locations that contain balloon-vine *Cardiospermum corindum* in hopes to find either *Cyclargus thomasi* or *Chlorostrymon simaethis*. While these sites and others like it can be teeming with butterfly life in the winter and early spring months, I have seldom ever found anything interesting at all at these sites after the middle of May.

I can say that I have had the identical same experience on Big Pine Key. I do not visit this key any more with collecting in mind for in the last few years postings have appeared on some of my favorite sites to collect. I always avoid venturing into posted areas with a net. My sites would consist of neighborhoods and vacant lots between stores. I also had a friend that owned about an acre and a half of slash pine on Big Pine Key. She would let me survey these areas as much as I wanted while down there. Unfortunately, she moved out of state and I no longer have access to her property. These areas always produce interesting bugs like *Ephyriades brunnea*, *Strymon acis* and *Cyclargus ammon* from October to the end of April showing the same exact phenomenon as the moths of the upper Keys. They would be almost non-existent in the populated areas of the island until October when they would begin showing up in small numbers. They would gain in numbers steadily throughout the winter and early spring. By the end of February, Big Pine Key was a hot spot for these unique species. These butterflies would also then go from being high in numbers to almost not existing within 1 week some time in May. It would remain like this for the rest of the summer. I can state the following specific scenario based on my many trips to this key looking for *Cyclargus ammon*. I have never once seen a *Cyclargus ammon* in the populated areas of Big Pine Key from June through September. It is as though they had gone extinct. Populations of *Strymon acis* and *Ephyriades brunnea* also drop in these areas at this time although they do exist there, just in very small numbers. I have seen them during this time in the wildlife refuge areas further north on the island. In October of 1998, Leroy Koehn and I made what would be my first trip looking for this species. In 4 hours we found 2 specimens. I would revisit this area repeatedly throughout November, December, January and February. I found that every time I came back, there seemed to be more and more of them. During March and early April seemed to be the peak of their existence here. I would make a quick stop at the slash pines to try and pick a fresh specimen or two each time I would go down and within 20 or 30 minutes during these months, one can easily survey a couple dozen *Cyclargus ammon* sifting through worn specimens until you would get a fresh specimen. After mid May, they simply disappeared. This identical repeating scenario occurred each year from 1998 through the present.

I now find Big Pine Key far too touchy an island to collect anything. So, unless visiting for photography or general surveying, since 2004 or so, I do not stop at Big Pine Key with collecting in mind. I made dozens of collecting trips there before 2004 during the late spring and summer months and almost never found an interesting species. I also frequent the Cactus Hammock area on the east side of the Island. I found the exact same scenario there as well with *Strymon martialis*, *Panoquina panoquinoides* and others. I have also visited the island 5 times since it has been rumored that *Cyclargus ammon* and *Anaea troglodyta* were removed from the island by the storm. I have not seen either species in these trips. *Strymon acis* is still strong, however.

My findings on this island are not one of a scientific investigation. Big Pine Key is a unique island that is isolated and far separated from similar habitats that I can compare my findings to. So drawing any conclusions on the affects of mosquito spraying on butterfly populations there based on what I have seen is not fair. I certainly do not have any other *Cyclargus ammon* locations in Florida to compare my findings on it. Although species like *Strymon acis*, *Strymon martialis*, and *Ephyriades brunnea* and others do thrive in numbers during the summer months in various locations on the mainland, there are certainly too many exterior factors that may affect these populations in different ways that would also need to be examined before making any accusations. I simply find it very interesting that the downward population spike of butterflies on Big Pine Key coincides precisely with that of the upper keys as well as the moth populations of the upper keys in populated areas in the late spring, usually some time in the middle of May. I am not familiar with the mosquito spray activity in the lower keys so, if I may be guilty of some sort of fallacy in this case, I am willing to accept that, however, I am also not making any accusations. I would still be vary curious for anyone to tell me why my assumptions are wrong regarding specifically *Cyclargus ammon*, and generally the other butterflies of Big Pine Key and the lower keys. That

would just be for my personal knowledge though for I am not making any strong scientific claims on the affects of mosquito spray on Lepidoptera populations of the lower keys as I am with that of Key Largo. It would just quench a strong curiosity at this point.

To sum up point number 2, I will say that it is safe to say that based on my findings, mosquito spraying does strongly impact the moth populations in populated areas of Key Largo. That is all that I can really state scientifically. I can assume more extensively other things regarding that of butterflies and that of other islands in the Keys, however, since Key Largo is the only island that I have actually conducted a legitimate study on, it is the only fair, truthful claim that I can make. I can state through my experience based on my opinion, that *'collecting butterflies and moths in the Keys is...(again, you know the word) from the middle of May until October.'* I still would not send any of my friends or fellow Lepidopterists there without permits during this time to find a great variety of species. My statement on the moths of Key Largo is not an assumption, it is my hypothesis. It is not an absolute fact either for I certainly have not examined all scientific possibilities. My statement is based on lots of data comparing populations in the city to that of the wildlife refuge only a few miles away. There is no major difference in these areas other than mosquito spray activity that would cause this type of result. To find that at the same time mosquito spraying commences for the year is the same time that moth populations plummet in the city and happens to be the same time that populations in the wildlife refuge begin to spike upward, I believe supports my statement emphatically. This is not a fallacy or an assumption. It is an educated hypothesis based on lots of data in an ongoing study. However, in Mr. Hribar's statement; *"If there truly is a decline in butterfly numbers in the Florida Keys after April or May, it is just as likely due to their natural seasonal distribution as to any perceived relation to mosquito control activity."*, I would like to make a friendly observation and recommendation on the statement *"just as likely"*.

Butterfly and moth populations do not naturally decline in the Keys in the month of May and stay stagnant throughout the summer. On the contrary! I found the exact opposite in my very lengthy and enlightening study. I found moth populations exploding in May, June and July in the refuge only a few miles from the city locations where they drop to almost nothing. I also found butterfly populations rise as well in the refuge during this time and decline rapidly in the city only a few miles away. I have seen butterfly populations rise on the mainland as well in the spring and summer months so unless there is some really great explanation to explain this scenario, I invite Mr. Hribar to re-examine this way of thinking. The attitude concerning wildlife that brings someone to say that it is *"just as likely"* might have some unfortunate results if applied to an activity as grand as county wide mosquito control. **I am not implying that the Mosquito Control District has this attitude. In fact, I am aware of many studies that they do to learn about the affects of the spraying on other animals in the environment and do all they can to keep any by-kill to a minimum such as the application of mosquito larvacide. Again, I am not against the Mosquito Control folks or what they do nor do I believe that they are responsible for any Lepidoptera "exterminations".**

As stated in my previous article, I believe it is habitat fragmentation or just simply loss of habitat that is the true culprit to blame for the disappearance of so many of our unique Lep species. If a species is able to survive when 95% of its natural habitat is taken from it, other lesser factors like mosquito spray, hurricanes *etc...* can become a larger factor when a colony resides on a roadside or in a hammock behind a strip mall. This is the only point I was trying to make in my previous article. If there are any sensitive developers or hotel owners from South Florida reading this that may take offence, I will apologize in advance for stating what is an obvious truth that is, what I believe, simply a generally recognized fact. The negative affects of mosquito spraying on Lepidoptera populations, is what I believe, a similar type of statement. In my 11 years of dealing with Lepidopterists, botanists, ecologists and environmentalists, I have never once heard anyone state that they didn't think that mosquito spraying knocks back Lep populations. I don't think that any responsible honest human being, even from the Mosquito Control District will say that Lepidoptera populations are not affected in areas where heavy spraying occurs. In fact Mr. Hribar himself in a way actually verifies this fact by stating the following in his rebuttal to my statements; *"I will also note that the Florida Keys Mosquito Control District makes fewer adulticide missions than we are permitted to; we have legal authority to make many more applications but **we do not for a variety of reasons both biological and ecological.**"* I agree with, applaud, commend and appreciate this genuine effort. If they did not agree that spraying has a negative affect for a *'variety of reasons both biological and ecological'*, then there would be no reason to hold back on the spraying. This is why I was so stunned to see such a passionate response claiming that I am stating fallacies in a few passing comments that I feel are simply understood sentiments amongst our community. **(Continued on page 105, photographs on page 117.)**

CATOCALA JUDITH STRECKER 1874 IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

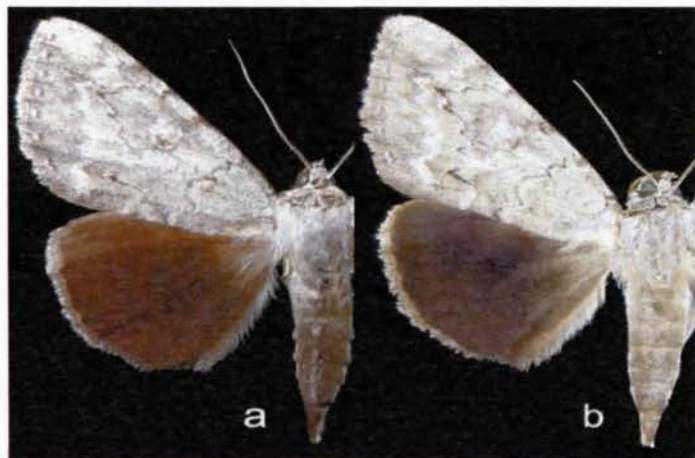


Fig. 1 *Catocala judith* Strecker: a male, b. female.



Fig. 2. Parish records by this author.

The rarely encountered, medium-sized black hindwing underwing moth *Catocala judith* Strecker (Fig. 1) is known to occur in Louisiana from a series of four specimens, three males and one female, captured at Red Dirt National Wildlife Refuge in Kisatchie National Forest, Natchitoches Parish, Louisiana (Fig. 2). The dates of capture of these four specimens are May 31 and June 1. Both sexes of *judith* appear quite similar in maculation and the fringe on hindwings is gray. The forewings appear somewhat inconspicuous and mottled gray and white in appearance. Barnes and McDunnough (1918) reported *judith* occurs widespread throughout the eastern states and the valleys of the Ohio and Mississippi Rivers, extending northward into Ontario and Quebec. Sargent (1976) states *judith* is generally uncommon, occurring "... Ontario, New Hampshire to North Carolina and west throughout area". Covell (1984) reported *judith* to occur from New Hampshire and southern Ontario to North Carolina, west to Wisconsin and Missouri. There is no mention of *judith* occurring in Florida by Heppner (2003) nor by Knudson and Bordelon (1999) for the state of Texas.

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REFERENCE TO THE "MOTH" IN CLASSICAL LITERATURE:

"The lawyer, with a swiftness that could never have been expected of him, opened his hands, caught the moth, and resumed his former attitude."

Leo Tolstoy, *Anna Karenina*, Part 4, Chapter 5

Source - The Free Library by Farlex: <http://tolstoy.thefreelibrary.com/Anna-Karenina/4-5#moths+in+classical+literature>

SPOTLIGHT ON REARING: *ISOPARCE CUPRESSI* (BDV.) IN LOUISIANA
 BY
 VERNON ANTOINE BROU JR.

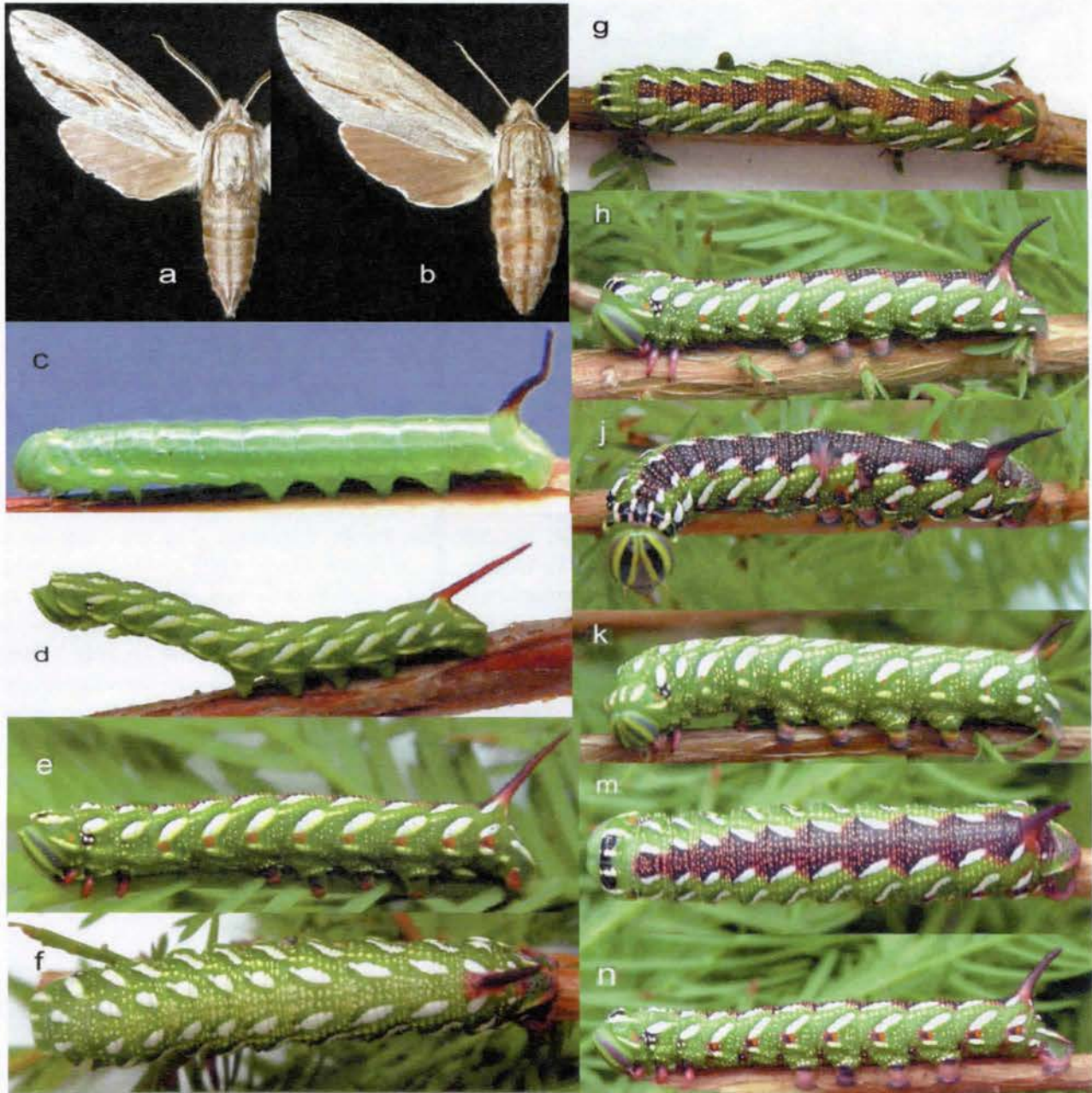


Fig. 1. *Isoparce cupressi*: a. adult male, b. adult female, c. first instar larva, d. second instar larva, e. mid-instar larva, f, g, m. late instar larvae dorsal view, h, j, k, n. late instar larvae side view.

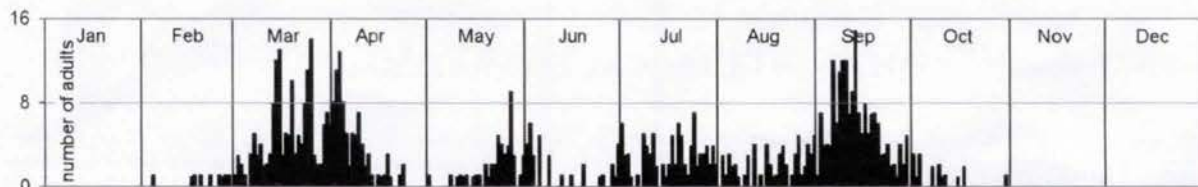


Fig. 2. Adult *Isoparce cupressi* captured in Louisiana (1970-95). n = 675.

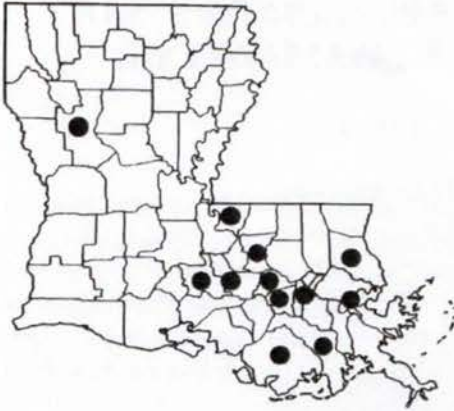


Fig. 3. Parish records for *I. cupressi*.



Fig. 4. *Isoparce broui* Eitschberger, holotype female, Mexico.

1d). In the mid and late instar larvae, these white markings broaden in shape and white speckling appears in all the green and brown areas and spiracles are surrounded with rusty red coloring. Varying amounts of brown appear on some larvae of the mid to near late instar (Fig. 1e, g, h, j, m, and n). Some larvae have no brown markings at all. The larvae are quite striking and colorful in appearance, especially considering the drab appearance of the adults. Prior to pupation (Fig. 5) the larvae color turns blue-green, then plum when they begin tunnelling under-ground. All 200+ larvae tunneled underground. Hodges (1971) reported pupation occurs above ground. Occasional larvae began to spin pitiful cocoons in the tree branches, then abandoned them. Adults emerge within three weeks after pupation.



Fig. 5. *Isoparce cupressi*: a, b, mature larvae prior to pupation, c, pupae.

- Brou, V. A. and C. D. Brou 2002. Addendum to the Sphingidae of Louisiana. *Jour. Lepid. Soc.* 56: 178-179.
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- Eitschberger, U. 2001. Eine neue *Isoparce*-Art aus Mexico. *Atalanta*, 32:411-418.
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The medium-size sphingid species *Isoparce cupressi* (Bdv.) (Fig. 1 and 5) is one of two known species of the genus. The second species, *Isoparce broui* Eitschberger (Fig. 4) was described in 2001 from Mexico and is a similarly marked species, but larger in size than *cupressi*. Both sexes of *broui* have more pointed forewing tips than *cupressi*.

I. cupressi usually has four annual broods, some years five broods in Louisiana. Fig. 2 is a reconstruction of the dates of capture graph illustrated by Brou and Brou (1997). The initial brood peaks about the third week of March, but can vary +/- three weeks depending on spring weather conditions in any given year. Broods two through four occur at approximately 42-day intervals beginning late May. This species was first reported for Louisiana by Covell (1984) based on my records and again by Brou and Brou (1997, 2002).

Hodges (1971) stated *cupressi* occurs from Florida to Texas and north to Arkansas and South Carolina, with date ranges from March to September. Covell (1984) reported *cupressi* has two broods. The parish records are shown in Fig. 3.

I obtained several hundred pea-green ova from a wild collected female *cupressi* and easily reared the larvae in plastic containers as well as sleeving the majority on a cypress tree (*Taxodium distichum* Rich.). The ova hatched within 8-10 days with first instar larvae quickly turning solid emerald green and a mahogany colored tail (Fig. 1c). The second instar larvae displayed two diagonal rows of white markings on each body segment above the spiracles and white longitudinal lines on each body segment below the spiracles (Fig. 1d). In the mid and late instar larvae, these white markings broaden in shape and white speckling appears in all the green and brown areas and spiracles are surrounded with rusty red coloring. Varying amounts of brown appear on some larvae of the mid to near late instar (Fig. 1e, g, h, j, m, and n). Some larvae have no brown markings at all. The larvae are quite striking and colorful in appearance, especially considering the drab appearance of the adults. Prior to pupation (Fig. 5) the larvae color turns blue-green, then plum when they begin tunnelling under-ground. All 200+ larvae tunneled underground. Hodges (1971) reported pupation occurs above ground. Occasional larvae began to spin pitiful cocoons in the tree branches, then abandoned them. Adults emerge within three weeks after pupation.

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HOW A TINY BEETLE MAY ELIMINATE ONE OF FLORIDA'S MOST COMMON BUTTERFLIES: THE PALAMEDES SWALLOWTAIL

BY
MARC C. MINNO

Larvae of the Palamedes Swallowtail (*Pterourus palamedes*) and the Spicebush Swallowtail (*Pterourus troilus*) are specialized to feed on plants in the Laurel family (Lauraceae). Both of these swallowtails (Papilionidae) are among the most common of Florida's butterflies and occur nearly throughout the state, except for the Keys and parts of the southern peninsula. The Spicebush Swallowtail (Fig. 1) has a wider host range than the Palamedes Swallowtail (Fig. 2). Its larvae have been found feeding on Camphortree (*Cinnamomum camphora*), Northern Spicebush (*Lindera benzoin*), Pondspice (*Litsea aestivalis*), Red Bay (*Persea borbonia* var. *borbonia*), Silk Bay



Fig. 1. Spicebush Swallowtail (*Pterourus troilus*)



Fig. 2. Palamedes Swallowtail (*Pterourus palamedes*)

(*Persea borbonia* var. *humilis*), Swamp Bay (*Persea palustris*) (Fig. 3), and Sassafras (*Sassafras albidum*) in Florida (Minno and Minno 1999, Minno *et al.* 2005). The Palamedes Swallowtail only feeds on the *Persea* species. Although it is more restricted in the number of host species used, the Palamedes Swallowtail is usually much more abundant than the Spicebush Swallowtail, especially in southern Florida. Red Bay and Swamp Bay are evergreen broad-leaved trees and are the primary hosts for both swallowtails in Florida.

In modern times, Florida has undergone major changes from a land of natural landscapes to one of mostly agricultural and urban uses. Today, most of Florida looks nothing like it did a few hundred years ago. Even parks and preserves have changed due to land management practices, hydrologic changes, variations in climate, and other factors. Numerous exotic plants and animals have become established in Florida, to the detriment of many native species.

The Black Twig Borer (*Xylosandrus compactus*) is a beetle (Curculionidae: Scolytinae) that ranges in size from 0.8 to 2.0 mm long (Dixon and Woodruff 1982). This exotic pest was first found in Florida in 1941 in Fort Lauderdale. It now occurs throughout much of the southeastern United States. The Black Twig Borer has been reported to attack over 220 species of trees and shrubs. Damage is caused when the female bores a hole into a host twig, and then excavates the pith to form a brood chamber. Spores of a fungus carried on the female infect the twig. Within the brood chamber, the female lays eggs and the resulting larvae and adults feed on the fungus. These activities of the Black Twig Borer and infection by the fungus cause the host branch to die from the vicinity of the brood chamber to the outer end. Among the hosts used by the beetle are trees and shrubs in the Lauraceae, including bays (*Persea* species) and Camphortree (*Cinnamomum camphora*). I have seen bays attacked by the



Fig. 3. Swamp Bay (*Persea palustris*)



Fig. 4. Red Bay Ambrosia Beetle (*Xyleborus glabratus*)

Black Twig Borer in many places in northern Florida, including my yard in Gainesville. In May 2007, I observed Red Bay and Swamp Bay trees heavily damaged by this beetle at the Moses Creek Conservation Area south of St. Augustine in St. Johns County. This beetle does not usually kill the host tree, but causes harm by killing the tips of the branches (commonly called "flagging"). The leaves of the infected host branch turn brown and remain attached to the twig.

In May 2002, another exotic ambrosia beetle was found in the Southeastern United States, (*Xyleborus glabratus*) (Fig. 4) (Mayfield and Thomas 2006). Unlike the Black Twig Borer, this tiny beetle is specific to plants in the Laurel Family and has been called the Red Bay Ambrosia Beetle. This beetle attacks the trunk and larger branches of Red Bay, Swamp Bay, and Sassafras. The fungus carried on the beetle infects the vascular system of the host, causing the plant to wilt and die. This disease is called Laurel Wilt. Often characteristic lines of compressed sawdust from the boring beetles protrude from the bark. As the host tree dies, the leaves turn brown but remain attached to the branches for months.

Since first detection of the Red Bay Ambrosia Beetle at Port Wentworth, Georgia, near Savannah, Laurel Wilt has rapidly spread to coastal areas of South Carolina, Georgia, and northeastern Florida (Fig. 5). It has also been found in disjunct locations such as Vero Beach in Indian River County, Florida. The Red Bay Ambrosia Beetle is likely to spread throughout the entire southeastern U.S. within a decade,

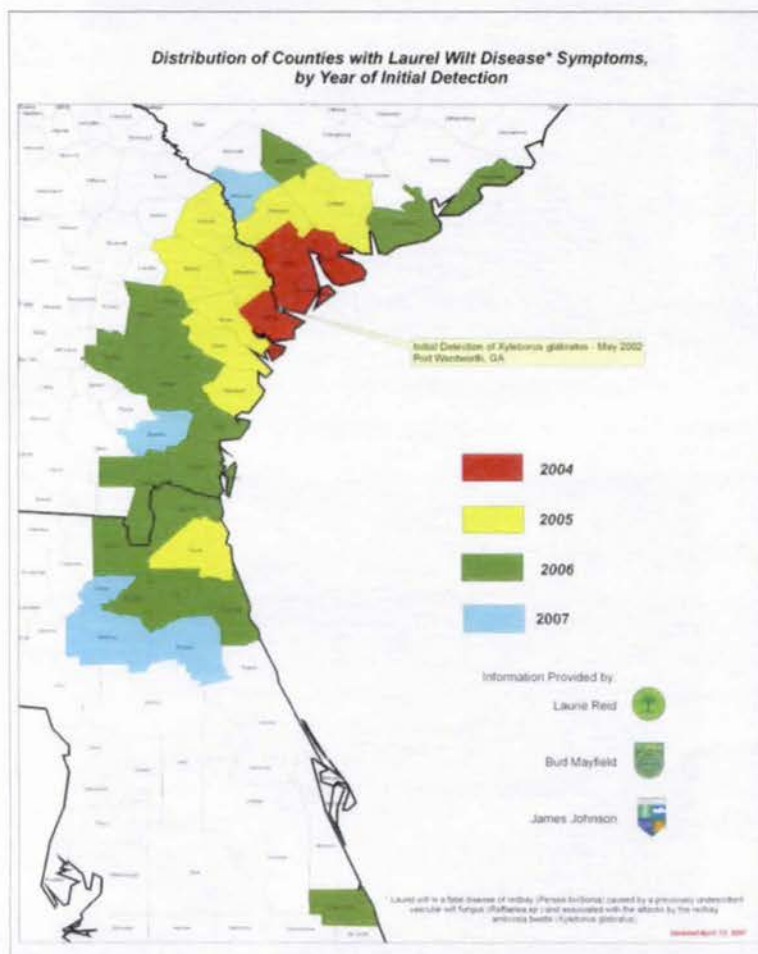


Fig. 5. Laurel Wilt Map*

and will significantly reduce the abundance of bays, sassafras, and perhaps other plants in the Laurel Family in the eastern U.S. Clearly Laurel Wilt will cause dramatic changes to southern forests, much as Chestnut Blight did in the eastern U.S. during the first part of the 20th century.

In study plots at Fort George Island near Jacksonville (Duval County) over 90% of Red Bays and all individuals over four inches in diameter have died from Laurel Wilt since early 2006 (Mayfield 2007). During the fall of 2006, I observed a forested wetland a few miles west of St. Augustine near Trestle Bay Swamp, St. Johns County,

in which Swamp Bay had been common. Every tree observed was dead or nearly dead from the Laurel Wilt caused by the Red Bay Ambrosia Beetle. This spring I observed many dead Swamp Bays along U.S. Highway 17 from Green Cove Springs in Clay County to Bostwick in Putnam County. However, Camphortrees in the vicinity of Green Cove Springs and elsewhere along the roadsides appeared untouched. Since Spicebush Swallowtails often feed on Camphortree, this butterfly may not become as impacted as the Palamedes Swallowtail.

In summary, the Palamedes Swallowtail and the Spicebush Swallowtail are being indirectly harmed by the Red Bay Ambrosia Beetle invasion and the associated spread of Laurel Wilt. Depending upon how widespread the beetle and Laurel Wilt become and how much *Persea* species are reduced in abundance, both swallowtails are likely to be less common in the future, especially the Palamedes Swallowtail. If Laurel Wilt kills most of the *Persea* trees in the Southeast, the Palamedes Swallowtail may actually become extirpated from the state and possibly from the United States.

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*Thanks to **Albert "Bud" Mayfield**, Ph.D., Forest Entomologist, Florida DACS Division of Forestry, 1911 SW 34th Street, Gainesville, FL 32608, for supplying the Laurel Wilt map.

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REFERENCES TO THE "MOTH" IN CLASSICAL LITERATURE:

" 'Do you mean to say that the candle doesn't burn the moth, when the moth flies into it?' Lady Montbarry rejoined. 'Have you ever heard of such a thing as the fascination of terror? I am drawn to you by a fascination of terror.' "

Wilkie Collins, *The Haunted Hotel*, Chapter 11

Source - The Free Library by Farlex: <http://collins.thefreelibrary.com/The-Haunted-Hotel/11-1#moth>

" 'I have a little brown cocoon of an idea that may possibly expand into a magnificent moth of fulfilment,' Anne told Gilbert when she reached home."

Lucy Maud Montgomery, *Anne's House of Dreams*, Chapter 24: The Life-Book of Captain Jim

Source - The Free Library by Farlex: <http://montgomery.thefreelibrary.com/Annes-House-of-Dreams/24-1#moth>

(The brochures on pages 95-96, and 103 were sent in by Dr. Rodolphe Rougerie for his DNA barcoding campaign.)

The Lepidoptera of the World

Lepidoptera are the second most diverse order of insects (after Coleoptera, the beetles). There are about 180,000 known species of Lepidoptera and another 300,000 likely await description. DNA barcoding is a new tool that is being used to advance the identification and discovery of species in this highly diverse group. This work is being conducted by researchers with expertise in ecology, molecular evolution and taxonomy, and is further aided by many dedicated amateur lepidopterists.



therefore available for double-checking and for long-term study. Voucher specimen identifications and the database are updated as new species are discovered and identifications revisited. As well, efforts are now underway to recover barcodes from type specimens, allowing an assignment of names in cases where barcoding reveals a sibling complex.

DNA Barcoding Lepidopterans: A Strategy to Survey the World

Because there are so many species of Lepidoptera worldwide, it is not feasible to tackle the entire fauna as a single effort. Instead, the DNA barcoding strategy operates at three geographic scales: global, continental and regional. The global campaigns are taxonomically focused, assembling barcode records for selected families of Lepidoptera. Work first began on the Sphingidae and the Saturniidae, but the largest family, the Geometridae, are now also under study. The continental and regional campaigns are more ambitious taxonomically; these campaigns are assembling barcode records for all species of Lepidoptera found in particular geographic realms. The first two continental campaigns underway are gathering barcode records for Australia and North America, while the first regional campaigns target the Lepidoptera of the Great Smoky Mountains National Park (USA), the Area de Conservación Guanacaste (Costa Rica), and the United Kingdom.

Connecting DNA Barcodes to Taxonomy

The use of a checklist as a basis for the administration of specimen identifications is a critical aspect of each campaign. All barcoded specimens gain their identifications based on this list from the team of taxonomic specialists working on a campaign. In this way, progress toward complete barcode coverage can be easily monitored and each species is represented in the database by just one name. All barcoded specimens are deposited in a collection and are

Building a Barcode Reference Library

All barcoding campaigns share a common analytical approach. Work begins with the collection of specimens and the injection of information on each specimen into a project area on BOLD, the Barcode of Life Data System (visit www.barcodinglife.org). In addition to collection date, location and other collaterals (such as who identified it and where the specimen is stored), an image of the specimen is also deposited in the database. A single leg is then removed from the individual, DNA is extracted, and the barcode region is PCR-amplified and sequenced. The sequence data migrate to BOLD where it is attached to the appropriate specimen record.



Each record combining information on a specimen with its barcode sequence represents a single entry in the barcode reference library. The barcode effort seeks multiple barcodes for each species, both at key sites and across its range. With an initial target of 10 specimens per species, there will be millions of barcode records when the 'All Leps' barcoding initiative is complete.

Current Progress

Results are now available for more than 10,000 species, but a significant fraction of these still await identification. Results to date indicate that barcodes deliver species-level resolution in approximately 98% of cases. The few cases of incomplete resolution involved sister taxa that are usually known to hybridize. As well, all large-scale surveys have revealed overlooked species, even in the most intensively studied localities and groups.

Total Number of Lepidoptera
Species Barcoded*
8,540

Total Number of Lepidoptera
Specimens Barcoded*
85,283

*as of July 1st, 2007

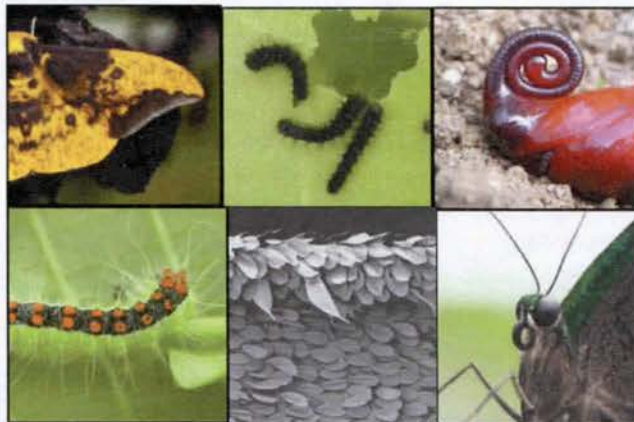
Leaders in the Field: Next Steps

The All Lepidoptera Barcode of Life Campaign (visit www.lepbarcoding.org) is one of the most successful DNA barcoding initiatives to date, made possible through the efforts of a growing network of dedicated researchers and amateur lepidopterists from around the world. Plans are now underway to extend the barcoding effort in an ambitious manner.



Researchers are launching a campaign to gather barcode records from all macrolepidoptera species of the world, a task that requires an expansion of the current network of collaborators, and the recruitment of new campaign leaders. This plan is one element of the International Barcode of Life Project - an initiative

that will see the assembly of five million barcode records from 500 thousand species within five years (visit www.dnabarcoding.org). Completion of the macrolepidoptera will not only be a significant milestone in the All Leps barcoding initiative, but a major contribution to global biodiversity research.



For more information on
the All Leps barcoding initiative,
please contact:

GLOBAL CAMPAIGNS

Geometrid Campaign

Axel Hausmann (Axel.Hausmann@zsm.mwn.de)

Saturniid Campaign

Rodolphe Rougerie (rrougeri@uoguelph.ca)

Sphingid Campaign

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CONTINENTAL CAMPAIGNS

Australia Campaign

Paul Hebert (phebert@uoguelph.ca)

North America Campaign

Paul Hebert (phebert@uoguelph.ca)

REGIONAL CAMPAIGNS

Area de Conservación Guanacaste (ACG) Campaign

Dan Janzen (djanzen@sas.upenn.edu)

Great Smoky Mountains Campaign

Jeremy deWaard (jdewaard@interchange.ubc.ca)

United Kingdom Campaign

Charles Godfray (charles.godfray@zoo.ox.ac.uk)

or visit:

All Lepidoptera Barcode of Life
www.lepbarcoding.org

CATOCALA CLINTONI GROTE 1864 IN LOUISIANA

BY

VERNON ANTOINE BROU JR.



Fig. 1. *Catocala clintoni*: a. male, b. female.

The medium-sized spring species *Catocala clintoni* Grote (Fig. 1) is usually the earliest *Catocala* species to be on the wing in Louisiana. Adults can be found from early April to June, though the single annual brood peaks during the first week of May (Fig. 2). I have captured *clintoni* in six parishes across the state (Fig 3).

Barnes and McDunnough (1918) state *clintoni* occurs throughout the United States east of the Rocky Mountains. Sargent (1976) states *clintoni* is rare to

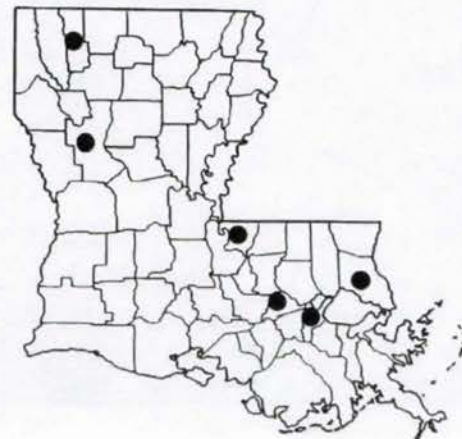


Fig. 2. Parish records by this author.

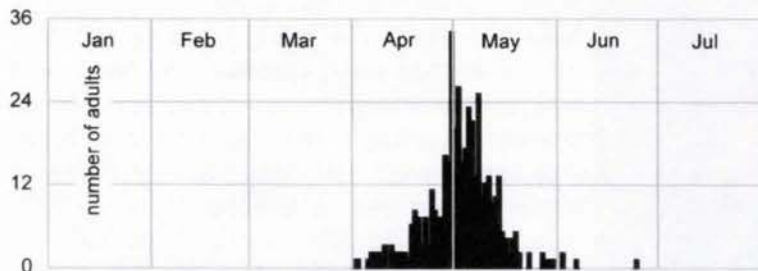


Fig. 2. Adult *Catocala clintoni* captured at sec.24T6SR12E, 4.2 mi NE of Abita Springs, Louisiana. n = 416.

uncommon over most of its range which he listed as Ontario to Florida and west throughout area, but not known from New England. Covell (1984) listed the range of *clintoni* to be southern Ontario and New York to Florida and west to Manitoba and Texas, with dates for Florida to be February to May, and found to be locally common southward, but rare in the north. Heppner (2003) lists the range as noted by Covell and the food plants to be *Prunus* sp., *Malus* sp. and *Crataegus* sp. Knudson and Bordelon (1999) list *clintoni* as occurring in the state of Texas.

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The smallest butterfly is the Western Pygmy blue (*Brephidium exilis*) found in the Western US. It has a wingspan of 0.62 inch.

MITCHELL'S SATYR REVISITED

BY

J. D. TURNER

In the summer of 1963, as a 15 year old, I lived in the small town of Fayette, Alabama. Jimmy Dobbs, my good friend, across-the-street neighbor, and fellow butterfly enthusiast, and I were engaged in a friendly competition for collecting the most species of butterflies. We both had the common species in the area, but Jimmy had a riodinid (*Calephelis virginensis*) which I didn't have. However, my list included two that Jimmy had not found, including a Baltimore (*Euphydryas phaeton*) and a single specimen identified by me as Mitchell's satyr (now *Neonympha mitchellii*). I knew from my Klot's Field Guide that the distribution did not include this area, but the possible significance of the find was not apparent to me at the time. Jimmy later used his butterfly collection as his science project, but I don't recall if I loaned him any of my specimens.

*Neonympha mitchellii*

In the early 1970's, while I was in medical school, I read an article about threatened species which included a blurb on Mitchell's satyr. When I left home for college in 1965, my parents stored my butterflies in the garage. Since my curating knowledge was limited, when I returned looking for the previously identified Mitchell's satyr, my collection was little more than scales and dust. At that point I had neither the time nor the motivation to pursue the existence of a Mitchell's satyr in the area, but I wasn't convinced that I simply made a taxonomic error.

My butterfly interest was rekindled in the 1980's, and in the 1990's I took several international expeditions with primary interests

in promoting rainforest preservation and studying riodinid butterflies, but I rarely returned to my childhood collecting areas.

In January, 2002, while skimming through *Alabama's Treasured Forests* magazine, I was surprised to see an article entitled "Mitchell's Satyr in Alabama." There was a photograph and general description of a location described as west-central Alabama. I soon learned that the site was part of the Oakmulgee Wildlife Management Area in the Talledega National Forest, in Bibb County. Fayette, previously known as Frog Level, is at the edge of the Sipsey River and approximately 60 miles northwest of the Oakmulgee Wildlife Area. Swamp areas persist but many areas were drained, some now supporting pine plantations.

I revisited some of my childhood collecting areas in Fayette County, specifically checking locations of suitable habitats for *N. mitchellii*. I found and photographed the Mitchell's satyr at several sites. Since my original specimen was destroyed, I cannot prove that the butterfly I caught 40 years ago was a Mitchell's satyr, but I'm convinced that it was.

This butterfly has been found in many areas of suitable habitat in central and northwest Alabama as well as eastern Mississippi, and is often quite common (personal communications). Studies to determine the taxonomic status relative to the northern *N. mitchellii* will be important. As long as the habitat is preserved, these satyrs will survive in Alabama.

The **largest moth** is the Atlas moth (*Attacus atlas*) with a wingspan of up to 12 inches. It is found in the forests of southeast Asia, southern China, and in the Malay archipelago, including Thailand to Indonesia.

COYOTE CLOUDYWINGS ARE EARLY MORNING FLIERS

BY
RO WAUER

Even before the sun dries the morning dew, before all of the other butterflies that frequent my yard are active, Coyote Cloudywings (Fig. 1-4) are flying. There are times during the early morning when a dozen or more individuals can be found flying swiftly about, already sampling nectar from some choice flowers, or resting on a sunny leaf. A fresh individual, with its snow-white hindwing fringes and contrasting blackish to chocolate-brown wings, is outstanding. And a closer look reveals pale bands (like scratches) on its rather pointed forewings. The undersides contain two jagged dark and often obscure bands.



Fig. 1. Coyote Cloudywing (*Achalarus toxeus*): note size comparison with smaller Eufala Skipper (*Lerodes eufala*).



Fig. 2. Coyote Cloudywing: very fresh individual with unworn white HW fringe, odd position.



Fig. 3. Female Coyote Cloudywings are lighter brown. Typical view with slightly worn white HW fringe.



One of the Jalapas Cloudywings (Mexican species): similar to our US Coyote Cloudywing.

Coyote Cloudywing, known to lepidopterists as *Achalarus toxeus*, is truly unique in North America. Although the genus *Achalarus* also includes Hoary Edge (*Achalarus lyciades*), Desert Cloudywing (*Achalarus casica*), and Skinner's Cloudywing (*Achalarus albociliatus*) in the U.S. (P. Opler and A.D. Warren's *Butterflies of North America. 2. Scientific Names List for Butterfly Species of North America, north of Mexico, 2002*), Jalapas Cloudywing (*Thessia jalapas*), an extremely rare stay to South Texas from Mexico south to Central America, is



Fig. 4. Coyote Cloudywing: underside of fresh individual, showing two dark bands and full white HW fringe.

legume that is found in Texas only "in the low woods in the coastal part of the Rio Grande Plains, rare n. to just s. of Laredo and to the vic. of Sinton, San Patricio Co." according to D.S. Correll and M.C. Johnston's *Manual of the Vascular Plants of Texas*, 1970. However, both Derek Muschalek (friend living in DeWitt County) and I have found Coyote Cloudywings egg-laying on blackbrush or chaparro prieta (*Acacia rigidula*) (Fig. 5), a smaller tree legume that commonly occurs in Texas north to Victoria and DeWitt counties and west into the Trans-Pecos.



Fig. 5. Acacia Blackbrush (*Acacia rigidula*).

Although Coyote Cloudywings almost always are the earliest fliers in my yard, and may be considered crepuscular in their behavior, at least three other butterfly species can also be expected early in the mornings: Carolina satyr (*Hermeuptychia sosybius*), Clouded Skipper (*Lerema accius*), and Gulf Fritillary (*Agraulis vanillae*), perhaps in that order. Brazilian Skipper (*Calpodis ethlius*) is also crepuscular, but adults are seldom present. All these species retreat to nearby shaded areas as the days warm, but they all become more active again during late afternoon. The contrasting white fringe of Coyote Cloudywings is obvious the latest, just before sunlight disappears from my yard.

(Ro Wauer, E-Mail: rwauer@viptx.net)

The **smallest moths** are in the family Nepticulidae which can be as small as 0.1 inch across. The larvae of these moths are leaf miners. These moths are found worldwide.

more similar in appearance. The principal difference in appearance is *Jalapas*'s white hindwing fringe is noticeably lobed.

Although the Coyote Cloudywing has long been considered a rare to uncommon species in the U.S., and usually only in extreme South Texas, the species has apparently increased its range in recent years. And my yard in Victoria County, along with reports from adjacent counties within the central Texas coastal region, appears to contain the largest U.S. population so far reported. There are times when I can easily find 15 to 25 individuals within my quarter-acre yard. Although Coyote Cloudywings are most numerous from April through mid-November, probably peaking from late August to mid-October, they have been recorded every month; there are single records in December and January.

All of the early descriptions of Coyote Cloudywings, including Robert Pyles's *National Audubon Society Field Guide to North American Butterflies* (1981), James Scott's *The Butterflies of North America* (1986), and Paul Opler's *Peterson Field Guides Eastern Butterflies* (1992), list a single larval foodplant: Texas ebony or ebano (*Pithecellobium flexicaule*). This is a tree

Blackbrush is an indicator plant of the Tamaulipan Biotic Province.

I have never found Coyote Cloudywings nectaring on the flowers of blackbrush, which blooms only in spring, but they do utilize a wide variety of other plants, both native and introduced. Favorite nectaring plants in my yard include sky-flower (*Doranta erecta*) and butterfly bush (*Buddleia davidii*) most of the year and crucita (*Eupatorium odoratum*) in fall. Other often used species include agarita (*Mahonia tifoliolata*) in early spring and lantanas (*Lantana* sp.), mealy sage (*Salvia farinacea*), and Texas kidneywood (*Eysenhardtia texana*) the remainder of the year.

**ACHALARUS CASICA (HERRICH - SCHAFFER, 1869)
...AN UNCOMMON VISITOR FROM THE WEST
BY
JOSEPH F. DOYLE III AND WILLIAM LINDEMANN**



Fig. 1. *Achalarus casica*, photo by W. Lindemann

On August 23, 2007, a dark skipper with white fringes on the hindwings was photographed by William Lindemann alongside Live Oak Creek at his property located at 884 Loudon Rd., 5 miles northwest of Fredericksburg, Texas (Fig. 1). At first glance, it appeared to be *Thorybes pylades albosuffusus* H. A. Freeman 1951 with a plausible occurrence of *Achalarus casica* in mind. To get a confirmation, the photo was emailed to the senior author. In phone conversation the next morning, a positive opinion was given based on the photo only. It was strongly suggested that the insect should be collected for a solid determination. The specimen was collected later that day and placed in a freezer. Upon inspection the example was determined to be a fresh, female *A. casica*. It had suffered some loss of scales in the process of collection. Photos of this specimen accompany this article as well as a photo of the habitat at the collection site (Fig. 2 - 4). The specimen was donated to Doyle and is in his collection.

GPS coordinates are 30 deg. 17.575 min. north and 98 deg. 56.853 min. west.

It should be noted that the area has been deluged by uncommon amounts of precipitation in 2007. Fifteen inches recorded at the site on 24 May, 2007 and a total of *ca.* 60 inches for the year. Twenty-eight inches is the average total yearly precipitation at Fredericksburg. This has produced continuous vegetational growth in central Texas. Lindemann noted that the western portions of the state in the Big Bend area were also verdant from recent rains observed during his recent visits.

This is a new Gillespie County, Texas record and an addition to the short list of historical records for the southeast Edwards Plateau region of the state for this species. Only Bastrop, Bexar and Kerr Counties have previously counted this entity among their butterflies. It has also been found in the Texas Big Bend counties of Brewster, Jeff Davis and Presidio. The range then proceeds westward to southwest New Mexico and southeast Arizona. It has been noted that it is an occasional stray in Central Texas and is more common in western Texas and to the south through Mexico and Guatemala (Skinner, 1911).

It was first reported from Texas by Ludolph Heiligbrodt in 1878 and collected in Bastrop County under the synonymous name, *Eudamus epigena* Butler as very rare. The exact dates are unknown but the dates 1867-1877 are listed in the title of his list (Heiligbrodt, 1878). The Kerr County records were from the collections and notes of H.L. Lacey at his ranch on Turtle Creek, ca. 7 miles southwest of Kerrville, Texas (Kendall, 1971). Dates are from 1899 to 1910. Kendall states "No recent records, probably no longer in the area". The Bexar County historical record is April, 1959, one (1) male, 522 W. Kings Hwy., collected by Roy W. Quillen. The specimen was given to Roy Kendall and is in the Kendall & Kendall Collection at Texas A&M University, College Station, Texas.



Fig. 2. *Achalarus casica*, dorsal view



Fig. 3. *Achalarus casica*, ventral view



Fig. 4. Habitat on W. Lindemann's property, northwest of Fredericksburg, Texas

Speculations regarding life history prompted inspection of *Desmodium ciliare* (Willd.) at the site but produced no evidence of larva or larval damage. *Centrosema virginianum* (L.) is also present but difficult to locate probably due to local deer population foraging. *C. virginianum*, *Clitoria mariana* L., *Desmodium sessilifolium* (Torr.) T. & G. and *tweedyi* Britt. are known 5 miles to the east at the Fredericksburg Nature Trail. (Botanical determinations by Lindemann.)

An interesting side note on the use of Fabaceae in Far West Texas by *casica* from a record of Roy Kendall's rearing in 1966 of the species from Jeff Davis Co. on *Desmodium grahamii* Gray. *Desmodium paniculatum* (L.) was offered and accepted as a substitute. The larvae went into diapause and did not survive, probably due to dessication in the indoor environment in Kendall's lab. On 7 July 1969, 3 larvae in leaf shelters on *D. grahamii* of which one larva pupated 16 August 1969 and a male emerged 28 August 1969 (Kendall, unpublished). This is what prompted the investigations of Fabaceae at Fredericksburg.

On September 6, 2007, Lindemann informed Doyle (phone communication) that another *casica* had been seen nectaring on *Salvia farinacea* Benth. in his front yard.

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Campaign Brief:

DNA Barcoding the North American Hawk Moths (Sphingidae)

(http://www.lepbarcoding.org/campaign_sphingid.php)

A global DNA barcoding campaign targeted on sphingid moths was initiated in August 2006; it is coordinated by Rodolphe Rougerie (Canadian Center for DNA Barcoding, Guelph) and co-chaired by Ian Kitching (NHM, London), Jean Haxaire (Laplume, France) and Thierry Vaglia (Montreal, Canada), three leading specialists of these moths.

Whereas the campaign is far advanced at the scale of the planet (more than 75% of the world's fauna has already been processed) after less than one year, there are still some gaps on the North-American continent.

By distributing this brief, we wish to invite the lepidopterists community to contribute to the campaign by providing material of species we currently have no or very few samples.

A whole specimen, or single leg of a specimen accompanied by photography and collecting data is the only requisite to have a sample entering the barcoding process.

Please contact **Rodolphe Rougerie** (rrougeri@uoguelph.ca) for sampling recommendations, shipment of empty tube boxes, or any information you would need about the species listed on the back page (picture, geographical distribution, etc.).

Most Wanted: North American Taxa

The following taxa are required to complete the North American Sphingid campaign:

Smerinthinae:

Adhemarius blanchardorum
Protambulyx carteri

Macroglossinae:

Aellopos tantalus
Aellopos titan
Arctonotus lucidus
Darapsa versicolor
Eumorpha intermedia
Euproserpinus euterpe
Euproserpinus phaeton
Euproserpinus wiesti
Hemaris diffinis
Hemaris gracilis
Hemaris senta
Hyles gallii intermedia
Madoryx pseudothyreus
Proserpinus clarkiae
Proserpinus flavofasciata
Proserpinus gaurae
Proserpinus juanita
Proserpinus terlooii
Proserpinus vega

Sphinginae:

Ceratomia catalpae
Ceratomia hageni
Ceratomia sonorensis
Lapara halicarnie
Lapara phaeobrachycerous
Manduca brontes
Paratrea plebeja
Sagenosoma elsa
Sphinx asellus
Sphinx canadensis
Sphinx chisoya
Sphinx eremitoides
Sphinx eremitus
Sphinx franckii
Sphinx geminus
Sphinx gordius
Sphinx leucophaeata
Sphinx sequoiae
Sphinx smithi
Sphinx vashti

Also welcome for this campaign:

» Central American and Caribbean species with range extending to, or migrating to southern North America (i.e. *Dolbogene hartwegii*, *Xylophanes spp.*, *Callionima spp.*, *Erinnyis spp.*, etc.)

» Invasive or introduced species in North America (i.e. *Deilephila elpenor*, *Hyles euphorbiae*, *Sphinx pinastri*)



T. R. Peale: #141. *Phaeton*



T. R. Peale: #11. Butterflies



T. R. Peale: #20. *Ceratomia quadricornis* (Caterpillar)



T. R. Peale: #16. Monarch Butterfly

(Continued from page 88.)

3) The final point that I will comment on is to the following statement made by Mr. Hribar; "Also on page 27, Mr. Fine implies that colonies of *Strymon acis bartrami* are being exterminated by mosquito control operations. I wonder if he has any data to support such a statement or if it is mere conjecture." Well, to sum up any confusion, let's take a look at what I said. "I couldn't help but look out of my window while flying over the Keys and south Florida while returning from a summer trip to El Salvador. I began to look at the "green" areas in comparison to how many "grey" areas there were. Throughout the entire coast line one can see extremely scattered areas that have a significant stands of trees. You don't really notice how extensive the destruction of the habitat has been while driving because you can't see over the surrounding buildings to get a panoramic view of your area. In many cases there is a gap of miles in between one small spec of habitat and another that might be similar to it. Let's take a species like the Bartram's Hairstreak (*Strymon acis bartrami*). A colony is able to live in a spec-habitat like this having all the host plant and nectar sources it needs to survive and was doing fine, then one day the habitat was given a douse of mosquito spray eliminating the colony from that area. Given the habitual nature of this species never venturing very far from its host plant, if the nearest habitat that contained this butterfly were more than a few miles away, the chances of an individual female making its way from the surviving colony through miles of busy streets and finding the once sprayed habitat and laying eggs is very unlikely." I was describing a hypothetical scenario that supports my comments that habitat destruction by development is the main enemy to butterflies. I used Bartram's Hairstreak as an example because of its habits of not venturing far from its host plant. If they happened to exist in a remnant patch pine hammock somewhere and a hypothetical spray truck came by and doused the habitat with mosquito spray, eliminating them from the habitat, it is unlikely that they would return due to the fact that the nearest place where they take up residence is miles away across a concrete, urban jungle. (I don't think it is all that unrealistic and unreasonable and certainly not a fallacy to believe that an already sensitive species that is hypothetically barely hanging on in this hypothetical habitat could be potentially eliminated by a hypothetical spraying incident or regiment.)

From these comments that I made, I do not see how I accused anybody of "exterminating" anything. I have seen an extermination of a species before. In Boca Raton, there is a city park where ornamental coontie plant (*Zamia pumila*) was by the hundreds in the parking lot. When I say that there were thousands of *Eumeas atala*, it is probably an understatement. There were more like tens of thousands when combining adult numbers with immature numbers. I knew what was coming. The larvae were starting to put a dent into the nice plants that the city purchased. In Boca Raton, EVERYTHING is manicured. To have an ornamental that is shredded by insects will not last a very long time. At the time, I was working in Butterfly World and some Broward County officials were trying to establish *E. atala* colonies in every County Park and they asked me if I could gather some for them to release. I knew exactly the place to get them. I could get enough so to colonize every park in South Florida. The next day I ventured down to the park to get some *E. atala* when I saw a guy in a truck dousing the coontie (*Zamia pumila*) with a pesticide of sorts thus EXTERMINATING the *E. atala* from this park. I missed my opportunity to get our fill of *E. atala* by about 10 minutes. This was an extermination!!!!

This word 'exterminate', for one, I never used. For two, is not even close to what I was discussing or implying in my hypothetical situation for this word almost implies that the exterminator is purposefully trying to eliminate the Bartram's Hairstreak from its very existence.

I feel very badly about this comment. I clearly never accused anyone of exterminating anything. I hope that Mr. Hribar would re-read this part of my article to perhaps get a new perspective on what I was actually talking about. **I apologize to Mr. Hribar and the Mosquito Control District if they in any way misunderstood my hypothetical scenario and took it as a literal occurrence.** I must add, that the Bartram's Hairstreak does have a very healthy population on Big Pine Key and I enjoy seeing this butterfly almost every time I have ever been to its habitat. I will also add, however, that although they are present in the late spring and early summer, their numbers do significantly decrease at this time while they are at a very healthy and constant number in certain sites on the mainland at this time. In places like the Miami Metro Zoo pine area and Everglades National Park (Long Pine Key) the Bartram's Hairstreak is at a very healthy number at these times when they decrease in Big Pine Key. I am not saying that it is from mosquito spray but it definitely is not because of their "natural seasonal distribution".

In the past few years, I have been paying attention to the mosquito spray factor very carefully on Key Largo.

After looking at an overview of my findings, perhaps the reader can see why I hold the opinions that I do concerning spraying and the Lepidoptera populations on Key Largo and why I made the comments that I did in previous articles. Mr. Hribar's remarks in 'A Letter to the Editor' were very passionate, claiming that I am guilty of all sorts of fallacies and blaming me of accusing the Keys Mosquito Control District of savagely 'exterminating' Bartram's Hairstreaks. My rebuttal to some of his comments is certainly equally as passionate (perhaps a bit more long winded though). The reason being because many of the readers of this news letter are my close friends and colleagues whom I hope value my writings and field work. I was waiting to publish most of this information in a collective and organized manner later on down the road. What I have given here is an attempt to add data to the passing comments I had made that were upsetting to Mr. Hribar and show that there is scientific meaning and reason behind them and not just senseless jargon based on emotion from a preconceived agenda. Hopefully we have closed the book on the accusation that I accused the Mosquito Control of exterminating Bartram's Hairstreaks and that statement can be left in the past.

My thoughts on the affects of mosquito spray on the moth populations of Key Largo however remain equally as strong. Although further scientific work is necessary to further understand the moth population complex of the upper Keys, I am fairly confident that my findings and theories do not fall in the lines of fallacies. Mr. Hribar quotes Dr. Emmel's and Dr. Minno's book on 'Butterflies of the Florida Keys' to show that this population fluctuation that I am noticing is based on rainfall levels and not mosquito spray. If you would do a 'Google' search with key words like; butterflies, Florida Keys, Mosquito Control, Dr. Emmel, you will find dozens and dozens of articles where the folks at the University of Florida, DPI, the Florida Fish and Wildlife Service and others either write or are referenced showing strong statements and experiments describing mosquito spraying as one of the main reasons for the decline of a variety of insect life in the Keys (most frequently referring to the Schaus Swallowtail). I am not going to get into a quoting match to defend my point. I am just reiterating my sentiments regarding my experience with others in this field when it comes to mosquito spraying being an issue with the Lepidoptera populations in the Keys, including the authors that Mr. Hribar quotes to defend his point. I have researched this topic well, however, I wish to leave out the findings of others preceding me for these topics have been well argued and well discussed. I wished to give a fresh perspective to the debate with affects on moths. I hope that my work would be followed up on and looked into further by others. I certainly plan on continuing my work in North Key Largo and welcome new lines of thought and perhaps even some assistance in the future.

Again, this moth population decline in Key Largo each year due to, I believe, mosquito control activity is not the major enemy of the Lepidoptera here. If these species still had many large, uninhabited areas where they could exist in natural habitats, our spraying would not threaten anything at all. Unfortunately, it seems to become more of a factor because of the damage that has been done by the loss of habitat. It simply adds some stress to an already beat up ecosystem.

I would love to discuss these issues and my findings with anyone who wishes to talk about them including Mr. Hribar. Like I said before, if someone can offer a valid, scientific explanation of the results of my findings that point in a direction other than mosquito spray being the cause of the decline in moth populations in Key Largo city while populations increase in the Wildlife Refuge typically in the month of May, I will gladly retract all of my statements. I am not biased in any way concerning this issue and will pursue new lines of thought with an open and diligent mind. In fact, I will be continuing my research in South Florida and the Keys, I am certain, for as long as I am alive and will actively participate in any honest project in this area. I welcome any and all correspondence. I may be reached by e-mail; Vladnuts@aol.com or by telephone; (561) 441-4873.

To all at the Monroe County Mosquito Control I want to say that, I for one, truly appreciate your industry and your work as well as your efforts to do all that is possible to lessen any negative affects from spraying on the environment in the Keys. The true enemy to the Lepidoptera of our sensitive area is the devastation of the habitat that is probably beyond rebound at this point. I think that we have destroyed any natural existing fauna in most of the populated Keys therefore spraying in these areas being a negative affect is 'here nor there'. As long as we respect the few natural areas that we have remaining and allow the butterflies and moths to exist as naturally as possible there, I have absolutely no problem with the continuance of any and all spraying in populated areas that allows humans to exist there and keep their sanity. Thank you for making possible countless relaxing days of fishing and other recreational activities that I have enjoyed in the Florida Keys with my friends and family.

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(Photographs that accompany David Fine's article are on page 117.)

REPORTS OF STATE COORDINATORS

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

David Rupe sends in the following report:

1-Sept-2007: Nola, Scott County, AR

Papilionidae: *Papilio glaucus*, *P. troilus*, *P. polyxenes*, *Battus philenor*

Pieridae: *Phoebis sennae*, *Eurema lisa*, *Eurema nicippe*

Lycaenidae: *Parrhasium m-album*, *Calycopis cecrops*, *Strymon melinus*, *Everes comyntas*

Nymphalidae: *Asterocampa clyton*, *Asterocampa celtis*, *Limentis archippus archippus*, *Limentis arthemis astyanax*, *Junonia coenia*, *Phyciodes tharos*, *Polygonia interrogationis*, *Libytheana carinenta*, *Hermeuptychia sosybius*, *Danaus plexippus*

Hesperiidae: *Atalopedes campestris*, *Polites themistocles*, *Hylephila phyleus*, *Wallengrenia egeremet*

Arctiidae: *Cisseps fulvicollis*

2-Sept-2007: (Same location)

Virtually all species above observed again, noteworthy species included:

Lycaenidae: *Atlides halesus*, *Parrhasium m-album*, *Celastrina ladona*

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

July 29: Covell reports from Fairchild Tropical Botanical Garden, Coral Gables, Dade Co.: Butterflies I saw and identified in Fairchild Gardens during the 28th and 29th were these: *U. dorantes*, *P. pigmalion*, *A. capucinus*, *Calpodus ethlius* (larva in canna leaf), *P. baracoa* (common), *B. polydamas* (frequent), *P. polyxenes asterius*, *H. cresphontes*, *P. sennae*, *P. agarithe*, *P. philea*, *Eurema dina helios* (surprise for me, but known to be there), *A. drusilla*, *E. atala* (including larvae on coontie), *L. cassius*, *A. jatrophae*, *Junonia evarete*, *M. petreus*, *A. vanillae*, *H. charithonia*, *D. julia*, *D. plexippus* (very common) and *D. gilippus berenice*. The only identifiable moth I attracted to light was a *Spoladea recurvalis* (Crambidae). Almost nothing in 2 light traps, infested by ants. Someone living nearby brought me a *Pachylia ficus* to identify, but I did not get the locality information.

August 5: Melrose, Clay Co. Covell recorded the following butterfly species there: *U. proteus*, *H. phyleus*, *P. palamedes*, *H. cresphontes*, *P. sennae*, *P. philea*, *C. cecrops*, *L. cassius*, and *A. vanillae* in yard of friends.

August 16: At home in Gainesville Covell saw an *Enyo lugubris* visiting Pentas before 9:30 AM.

September 18: At La Chua Trail, Alachua Co., on northeast side Payne's Prairie State Park, Covell recorded the following butterfly species: *Urbanus proteus*, *Erynnis horatius*, *Hylephila phyleus*, *Pyrgus communis* (complex), *Panoquina ocola*, *Papilio troilus*, *Papilio troilus*, *Heraclides cresphontes*, *Phoebis sennae*, *Eurema nicippe*,

Eurema दौरा, *Leptotes ceraunus*, *Vanessa atalanta*, *Vanessa cardui*, *Junonia coenia*, *Agraulis vanillae*, *Heliconius charithonia*, *Euptoietia claudia*, *Danaus gilippus berenice* and *Danaus plexippus*.

Covell's yearly list at his house in the "Duckpond" neighborhood of historic Gainesville is as follow, as of Sept. 20:

1. <i>Phoebis sennae eubule</i>	January 12, in front yard
2. <i>Urbanus proteus</i>	January ?, on Lantana in front yard
3. <i>Danaus plexippus</i>	January 21, flying over the yard
4. <i>Papilio troilus</i>	March 15, nectaring on Pentas
5. <i>Polygonia interrogationis</i>	March 15, flying around back yard
6. <i>Vanessa atalanta</i>	March 20, flying by our garage
7. <i>Junonia coenia</i>	March 24, nectaring high in <i>Viburnum</i>
8. <i>Hylephila phyleus</i>	March 24, female at rest on a bush
9. <i>Atlides halesus</i>	March 25, female in <i>Viburnum</i> tree
10. <i>Agraulis vanillae</i>	March 26, settling in back lawn
11. <i>Vanessa virginiensis</i>	March 29, on Lantana in back yard
12. <i>Heraclides cresphontes</i>	March 31, flying over the back yard
13. <i>Battus polydamas</i>	April 1, flying in our back yard
14. <i>Epargyreus clarus</i>	April 4, nectaring on Lantana in back
15. <i>Calycopis cecrops</i>	April 12, resting on a leaf in back yard
16. <i>Heliconius charithonia</i>	May 6, flying near the tool shed
17. <i>Erynnis horatius</i>	May 10, resting in back lawn
18. <i>Libytheana carinenta bachmanii</i>	June 17, resting in back lawn
19. <i>Phoebus philea</i>	July 8, resting on foodplant & flying
20. <i>Euphyes vestris</i>	July 22, on Lantana bush in front
21. <i>Papilio polyxenes asterius</i>	July 24, larva on fennel in back yard
22. <i>Leptotes cassius</i>	July 30, lighting on Plumbago
23. <i>Eurema nicippe</i>	August 27, on Pentas
24. <i>Panoquina ocola</i>	September 1, on Lantana
25. <i>Asterocampa clyton</i>	September 16, female near toolshed
26. <i>Papilio palamedes</i>	September 16, on Pentas in back yard
27. <i>Strymon melinus</i>	September 21, on Pentas in back yard

The following data are from James K. Adams:

Bay County, Mexico Beach, Florida, (NW of town) N off of Hwy. 98, mixed sand scrub and cypress/fern habitat July 19-21, 2007, James K. Adams, *leg.*

TORTRICIDAE: *Zomaria* sp., *Sparganothis caryae*. **PYRALIDAE/CRAMBIDAE:** *Tallula watsoni*, *Glaphyria sesquialis*, *Lepidomys irrenosa*, *Pyrausta laticlavata*, *Vaxi auratella*, *V. critica*, *Rupella* sp. **GEOMETRIDAE:** *Macaria aequiferaria*, *Glena cognataria*, *Nemoria outina*, *Synchlora frondaria*, *Idaea taturata*, *Idaea violacearia*, *Scopula umbilicata*. **LIMACODIDAE:** *Apoda rectilinea*, *Natada nasoni* (very dark), *Monoleuca* sp., *Parasa indetermina*, *Adoneta* sp. **MEGALOPYGIDAE:** *Megalopyge pyxidifera*. **NOTODONTIDAE:** *Datana ranaiceps*, *D. robusta*, *Heterocampa astarte*, *Hyparpax* sp., probably *perophoroides* (though has some *aurora* tendencies). **ARCTIIDAE:** *Cisthene subjecta*, *C. packardii*. **NOCTUIDAE:** *Prosoparia perfuscaria*, *Hypenula cacuminalis*, *Argyrostromis quadrifilaris*, *A. deleta*, *A. sylvarum*, *A. erasa*, *Ptichodis vinculum*, *Epidromia fergusonii*, *Panopoda repanda*, *Zale declarans*, *Fagitana littera*, *Abablemma brimleyana*, *Hyperstrotia nana*, *Afrida ydatodes*.

Some little dark psychids as well, but as of this moment unidentified.

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

The very dry spring and early summer appeared to depress numbers of butterflies and moths, although the

diversity doesn't seem to have been severely affected. There were several productive trips, and several nice county and even several state records were established. There was an abundance of a number of species that was atypical: the Bumblebee Sphinx Moth (*Hemaris diffinis*) continues to be common and the white lithosiine arctiid *Crambidia* nr. *casta* was ridiculously abundant at several places across north GA in late July/early August. We've also already begun to see an appreciable influx of Gulf Fritillaries (*Agraulis vanillae*) and Long-Tailed Skippers (*Urbanus proteus*) into north GA, whereas in usual years it's September before the Fritillaries become common, and the Long-Tailed Skippers are typically only occasional. Abbreviations are as follows: James Adams (JA or no notation), Eleanor Adams (ERA), Irving Finkelstein (IF), Jeff Slotten (JS). Other contributors names spelled out with the appropriate records. Most records presented here represent new or interesting records (range extensions, unusual dates, uncommon species, county records, etc.) or records for newly investigated areas and/or new times of the year. Known County and State records are indicated. All dates listed below are 2007 unless otherwise specified.

Black Rock Mountain State Park, Rabun Co., July 12, Pierre and Christopher Howard:

LYCAENIDAE: King's Hairstreak (*Satyrrium kingi*).

Calhoun, Gordon Co. (my house and cattail habitat):

PIERIDAE: *Pontia protodice*, Aug. 9. **LYCAENIDAE:** *Parrhasius m-album*, Aug. 13 (COUNTY). **HESPERIIDAE:** *Urbanus proteus*, common, mid-Aug into mid-Sep; *Copaeodes minima*, Aug. 25 (COUNTY). **ARCTIIDAE:** *Crambidia* nr. *casta*, July 30 (COUNTY). **NOCTUIDAE:** *Zanclognatha* sp., nr. *litoral*, June 28; *Macrochilo litophora*, July 16; *Anomis erosa*, Aug. 6 (EARLY); *C. vidua*, Aug. 14 (EARLY); *C. alabamiae*, June 28; *Enigmogramma basigera*, July 10; *Acronicta exelis*, Aug. 3; *Bellura densa*, June 28. **GEOMETRIDAE:** *Idaea violacearia*, Aug. 5. **PYRALIDAE:** *Omphalocera cariosa*, July 16.

Calhoun, Gordon Co., end of Tate Bend Rd.; cane habitat along Oostanaula River:

August 18 - 19:

NOTODONTIDAE: *Heterocampa subrotata* (common). **NOCTUIDAE:** *Zanclognatha atrilineela*, *Abablemma brimleyana*, *Parahyphenodes quadralis* (COUNTY, rare in STATE), *Anomis erosa* (EARLY), *Isogona tenuis* (common), *Catocala angusi*, *Argyrogramma verrucae* (EARLY), *Tripudia flavofasciata* (30+, only one recorded from this location previously), *Spragueia dama*, *Acronicta rubricoma*, *A. betulae*, *Cirrhophanus triangulifer*, *Lacinipolia laudabilis* (abundant), *Leucania callidior*. **GEOMETRIDAE:** *Eusarca packardaria* (4, including 3 females; only known location for this species in GA), *Idaea scitillularia* (7, only 2 records for the COUNTY previously [from same location]).

August 25-26:

NOCTUIDAE: *Zanclognatha* nr. *litoral* (COUNTY), *Lomanaltes eductalis*, *Tripudia flavofasciata* (still abundant), *T. quadrifera*, *Spragueia leo*, *S. dama*, *S. apicalis* (3), *Acontia aprica*, *Tarachidia erastrides*, *Acronicta betulae*, *Mesapamea trigona* (5), *Lacinipolia laudabilis* (still abundant), *Trichordestra legitima* (uncommon, COUNTY), *Heliocheilus lupatus* (COUNTY). **GEOMETRIDAE:** *Eusarca packardaria*, *Idaea celtima*, *I. scitillularia* (5). **PYRALIDAE:** *Dioryctria taedivorella*.

Carbondale, Whitfield Co.:

SPHINGIDAE: *Agrius cingulatus*, Sept. 10. **NOCTUIDAE:** *Trichordestra legitima*, Sept. 10 (uncommon in state).

Dalton, Whitfield Co.:

PIERIDAE: *Pontia protodice*, Aug. 15. **NOCTUIDAE:** *Catocala residua*, Aug. 23.

Crest of Rocky Face Ridgeline along Dug Gap Battle Rd., just SW of Dalton, Whitfield Co., Sept. 17:

NYMPHALIDAE: *Junonia coenia*, with extra bluish-green iridescence on both the forewings and hindwings.

Mill Creek Community, Whitfield Co. Sept. 7.:

NOCTUIDAE: *Trichordestra legitima*, uncommon in state, though three recorded during this quarter (see Carbondale and Calhoun, cane area, above).

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

July 14-15, JA:

ARCTIIDAE: *Grammia figurata*. **NOCTUIDAE:** *Zale bethunei*, *Catocala flebelis*, *C. ulalume*, *C. judith*.
PYRALIDAE: *Choristostigma roseipennalis*. **SESIIDAE:** *Synanthedon* sp. (possibly undescribed).

August 3-4, JA & IF:

NOTODONTIDAE: *Nerice bidentata*. **ARCTIIDAE:** *Grammia figurata* (many, with some nice forms).
NOCTUIDAE: *Idia scobialis*, *Zale obliqua*. **GEOMETRIDAE:** *Cymatophora approximaria* (VERY EARLY).
LIMACODIDAE: *Tortricidia pallida*. **SESIIDAE:** *Synanthedon* sp. (many, same as on July 14-15).

5 miles ESE of Fairmount, NE corner of Bartow Co., Salacoa Rd. at Salacoa Creek.:

July 30-31:

PYRALIDAE: *Omphalocera munroei* (many), *O. cariosa* (COUNTY). **ARCTIIDAE:** *Crambidia* nr. *casta* (abundant). **NOCTUIDAE:** *Spragueia dama*.

Aug. 24-25:

NOTODONTIDAE: *Ellida caniplaga*. **NOCTUIDAE:** *Basilodes pepita* (11), *Schinia "bifascia"*.

8 mi. WNW of Ellijay, Gates Chapel Rd., Gilmer Co., July 26, IF:

GEOMETRIDAE: summer form *Selenia kentaria*. **PYRALIDAE/CRAMBIIDAE:** *Argyria* (formerly *Vaxi*) *auratella*, *Chrysendeton kimballi*.

Dugan Elementary School, Douglasville, Paulding Co., GA, Aug. 4, Jason Roberts:

SATURNIIDAE: *Callosamia securifera* (COUNTY, pretty far north)

Atlanta, Fulton Co. (IF's house):

GEOMETRIDAE: *Macaria pinistrobata*, July 14.

Oohoopee Dunes, Tract 2, 8 miles W of Swainsboro, Emanuel Co., Aug. 31/Sept. 1, with IF:

SATURNIIDAE: *Anisota stigma*. **NOTODONTIDAE:** *Hyparpax aurora*. **NOCTUIDAE:** *Acrionicta brumosa*, *Drasteria grandirena*, *Schinia scissoides*, *Schinia* sp. (*fulleri*?). **GEOMETRIDAE:** *Euchlaena madusaria*.
PYRALIDAE: *Parapoynx seminealis*.

Oohoopee Dunes, Tract 3, 9 miles WSW of Swainsboro, Emanuel Co., Aug. 31/Sept. 1, with IF:

APATELODIDAE: *Olceclostera indistincta*. **NOTODONTIDAE:** *Hyparpax aurora*. **ARCTIIDAE:** *Cisthene subjecta*, *Hypercompe scribonia*, *Grammia placentia*. **NOCTUIDAE:** *Zanclognatha minoralis*, *Argyrostromis sylvarum*, *A. flavistriaria*, *Dysgonia similis*, *Drasteria grandirena*, *Hyperstrotia nana*, *Acrionicta tritona*, *Harrismemna trisignata*, *Callopietria granitosa* (uncommon), *Elaphria exesa*, *Schinia arefacta*, *S. scissoides*, *S. rivulosa*, *S. trifascia*. **GEOMETRIDAE:** *Nematocampa baggetaria*, *Narraga georgiana*, *Euchlaena obtusaria*, *E. madusaria*. **PYRALIDAE/CRAMBIIDAE:** *Pyrausta laticlavata*, *Parapoynx maculalis*, *P. seminealis*, *Uresiphita reversalis*, *Argyria lacteola*, *Pyrausta phoenicialis*. **SESIIDAE:** *Synanthedon* sp. (similar to species found in numbers on Taylor's Ridge), *S. acerni*. **LIMACODIDAE:** *Lithacodes* nr. *gracea*. **URODIDAE:** *Urodus parvula*.

Oohoopee Dunes, Tract 4 (Covena Tract), 9 miles SW of Swainsboro, Emanuel Co., Sept. 1-2, with IF:

SATURNIIDAE: *Callosamia angulifera*. **SPHINGIDAE:** *Manduca sexta*, *Ceratomia catalpae*, *Paonias excaecatus*, *Enyo lugubris*. **APATELODIDAE:** *Olceclostera indistincta*. **NOTODONTIDAE:** *Hyparpax aurora* (liney form). **LYMANTRIIDAE:** *Dasychira dorsipennata*. **ARCTIIDAE:** *Cisthene subjecta*, *Hypoprepia miniata*, *Holomelina laeta*, *Hyphantria cunea*, *Hypercompe scribonia*, *Leucanopsis longa*. **NOCTUIDAE:** *Hemeroplanis* nr. *habitalis*, *H. scopulepes*, *Amyna octo*, *Drasteria grandirena*, *Zale horrida*, *Baileya doubledayi*, *Oruza albocostaliata*, *Tarachidia tortricina*, *Acrionicta rubricoma*, *A. tritona*, *A. brumosa*, *Diphthera festiva*, *Heliothis virescens*, *Schinia arefacta*, *S. bifascia*, *S. sordida/ar*, *S. rivulosa*, *S. trifascia*, *Elaphria fuscimacula*, *E. exesa*, *Emarginea percara*, *Condica confederata*, *Spodoptera latifascia*. **GEOMETRIDAE:** *Eumacaria latiferrugata*, *Digrammia eremiata*, *Pimaphera sparsaria* (STATE), *Lobocleta ossularia*, *L. peralbata*, *Idaea violacearia*. **PYRALIDAE:** *Lepidomys irenosa*, *Uresiphita reversalis*, *Argyria lacteola*, *Prionapteryx* nr. *achatina*, *Pyrausta laticlavata*, *Parapoynx allionealis*, *Mumroessa gyralis*, *Ategumia ebulealis*, *Dioryctria merkei*. **TORTRICIDAE:** *Eucosma quinque maculana*, **SESIIDAE:** *Synanthedon acerni* "tepperi". **PSYCHIDAE:** Little gray sp. **COLEOPHORIDAE:** *Coleophora spissicornis* (?).

Horse Creek WMA, 12 mi. SSW of Lumber City, along Ocmulgee River, Telfair Co.:

June 22-23, with ERA & IF:

SATURNIIDAE: *Automeris io*, *Actias luna*, *Antheraea polyphemus*. **SPHINGIDAE:** *Ceratomia amyntor*, *Lapara coniferarum*, *Paonias excaecatus*. **NOTODONTIDAE:** *Datana integerrima*, *Nadata gibbosa*, *Symmerista albifrons*, *Peridea angulosa*, *Heterocampa obliqua*, *Lochmaeus bilineata*, *Oligocentria lignicolor*, *Schizura concinna*, *Schizura* sp. nov. **ARCTIIDAE:** *Crambidia lithosioides*, *C. pallida*, *Hypoprepia fucosa*. **NOCTUIDAE:** Unidentified small brown noctuid (taken here also in April) *Idia americalis*, *I. rotundalis*, *I. lubricalis*, *Zanclognatha minoralis*, *Bleptina caradrinalis*, *Renia flavipunctalis*, *Colobochyla interpuncta*, *Metalectra quadrisignata*, *Cutina aluticolor*, *C. distincta*, *C. albopunctella*, *Argyrostromis flavistriaria*, *A. deleta*, *Ptichodis vinculum*, *P. bistrialis*, *Zale* sp., *Catocala mira*, *C. alabamiae*, *C. andromedae*, *C. lineela*, *Acronicta impleta*, *A. morula*, *A. tritona*, *Hyperstrotia pervertens*, *H. flaviguttata*, *Spragueia leo*, *Lithcodia muscosula*, *Thioptera nigrofimbria*, *Baileya ophthalmica*, *B. acadiana* (COUNTY), *Amphipyra pyramidoides*, *Iodopepla u-album*, *Mythimna unipuncta*. **GEOMETRIDAE:** *Eumacaria latiferrugata*, *Macaria bicolorata*, *M. distribuaria*, *M. aequiferaria*, *Glenoides texanaria*, *Ectropis crepuscularia*, *Iridopsis defectaria*, *I. vellivolata*, *Hypomecis umbrosaria* (light), *Melanolophia signataria*, *Exelis pyrolaria*, *Hypagyrtis unipunctata*, *H. esther*, *Episemasia solitaria*, *Erastria cruentaria*, *Euchlaena amoenaria*, *Plagodis fervidaria*, *Probole amicaria*, *Eutrapela clemataria*, *Nemoria bistriaria*, *N. bifilata*, *N. lixaria*, *Synchlora aerata*, *Idaea violacearia*, *I. obfusaria*, *Cyclophora packardi*, *Calothysanis armaturaria*, *Eulithis diversilineata*, *E. gracilineata*. **LIMACODIDAE:** *Apoda y-inversum*. **PYRALIDAE:** *Colomychus talis*, *Diasemioides janasiensis*, *Desmia maculalis*, *Uresiphita reversalis*, *Aglossa cuprina*. **ACROLOPHIDAE:** *Acrolophus* spp. (at least three). **YPONOMEUTIDAE:** *Yponomeuta multipunctella*.

Sept. 2-3, 2007, with IF:

SATURNIIDAE: *Dryocampa rubicunda*, *Anisota stigma*, *Eacles imperialis*, *Automeris io*, *Actias luna*. **LASIOCAMPIDAE:** *Tolyte notialis*. **SPHINGIDAE:** *Dolba hyloeus*, *Lapara coniferarum*, *Paonias excaecatus*, *Enyo lugubris*, *Darapsa myron*. **NOTODONTIDAE:** *Datana drexelli*, *D. angusi*, *Nadata gibbosa*, *Heterocampa obliqua*, *Peridea angulosa*, *Lochmaeus manteo*, *L. bilineata*, *Symmerista albifrons*, *Nerice bidentata*, *Schizura Oligocentria lignicolor*. **ARCTIIDAE:** *Cisthene subjecta*, *Hypoprepia fucosa*, *Halysidota tessellaris*. **LYMANTRIIDAE:** *Dasychira meridionalis*, *D. dorsipennata*, *Orgyia definita*. **NOCTUIDAE:** *Idia americalis*, *I. aemula*, *I. rotundalis*, *Zanclognatha minoralis*, *Bleptina caradrinalis*, *B. inferior*, *Palthis angulalis*, *Metalectra discalis*, *M. tantillus*, *Hypena baltimoralis*, *H. scabra*, *Melanomma auricinctaria*, *Rivula* (nr) *propinquialis*, *Redectis vitrea*, *Colobochyla interpuncta*, *Nigetia formosalis*, *Plusiodonta compressipalpis*, *Ledaea perditalis*, *Hemeroplanis scopulepes*, *Arugisa latiorella*, *Pangrapta decoralis*, *Cutina distincta*, *C. arcuata*, *C. aluticolor*, *Argyrostromis anilis*, *A. sylvanum*, *A. deleta*, *Ptichodis herbarum*, *Caenugria chloropha*, *Dysgonia smithi*, *Parallela bistriaris*, *Panopoda rufimargo*, *Mocis texana*, *M. latipes*, *Zale horrida*, *Allotria elonympha*, *Paectes abrostoloides*, *Acronicta lobeliae*, *A. laetifica*, *A. haesitata*, *A. vinnula*, *A. ovata*, *A. inclara*, *A. afflicta*, *Polygrammate hebraicum*, *Charadra deridens*, *Oruza albocostaliata*, *Homophoberia apicosa*, *Thioptera nigrofimbria*, *Hyperstrotia secta*, *H. villificans*, *Tripudia quadrifera*, *Tripudia* sp., *Schinia rivulosa*, *Properigea tapeta* (COUNTY), *Phosphila miseloides*, *P. turbulenta*, *Ogdoconta cinereola*, *Perigea xanthoides*, *Spodoptera ornithogalli*, *Schinia rivulosa*. **DREPANIDAE:** *Oreta rosea*. **GEOMETRIDAE:** *Mellila xanthometata*, *Macaria aemulataria*, *M. bisignata*, *M. bicolorata*, *M. distribuaria*, *Digrammia gnophosaria*, *Glenoides texanaria*, *Anavitrinella pampinaria*, *Iridopsis larvaria*, *I. defectaria*, *I. vellivolata*, *Melanolophia signataria*, *Hypagyrtis esther*, *H. unipunctata*, *Euchlaena amoenaria*, *E. (nr) deductaria*, *E. obtusaria*, *Besma quercivoraria*, *Probole amicaria*, *Xanthotype urticaria*, *Eutrapela clemataria*, *Nemoria lixaria*, *Scopula umbilicata* (COUNTY), *Idaea demissaria*. **ZYGAENIDAE:** *Alcoloithus falsarius* (COUNTY). **MEGALOPYGIDAE:** *Megalopyge opercularis*. **LIMACODIDAE:** *Isa textula*, *Apoda y-inversum*, *Lithacodes fasciola*, *Isochaetes beutenmuelleri*. **PYRALIDAE:** *Pococera zelleri*, *Desmia funeralis*, *D. maculalis*, *Dioryctria amatella*, *D. ebeli*, *Dolichomia olinalis*, *Argyria lacteola*, *Palpita magniferalis*, *Arta olivalis*, *Ategumia ebulealis*, *Colomychus talis*. **TORTRICIDAE:** *Eucosma robinsoni*. **OECOPHORIDAE:** *Antaeotricha schlageri*, *Inga sparsiciliella*. **COSMOPTERGIDAE:** *Euclementia bassetella*. **SESIIDAE:** *Synanthedon acerni* ("tepperi"), *Synanthedon* sp. (same as that collected in abundance in NW GA at Taylor's Ridge, Walker Co.).

Hazelhurst, Jeff Davis Co., June 22-23, 2007, with ERA and IF (ALL records likely COUNTY records):

SPHINGIDAE: *Lapara coniferarum*. **NOTODONTIDAE:** *Datana integerrima*, *Nadata gibbosa*, *Symmerista albifrons*, *Heterocampa obliqua*. **LYMANTRIIDAE:** *Dasychira basiflava*. **NOCTUIDAE:** *Idia americalis*, *I. aemula*, *I. rotundalis*, *Lascoria ambigualis*, *Schrankia macula*, *Bleptina caradrinalis*, *B. inferior*, *Renia*

flavipunctalis, *Catocala amica*, *C. lineela*, *Lithacodia muscosula*, *Spragueia dama*, *Diastema tigris* (COUNTY; very uncommon in STATE), *Thioptera nigrofimbria*, *Callopietria mollissima*, *Ogdoconta cinereola*, *Amphipyra pyramidoides*, *Spodoptera frugiperda*, *Anicla infecta*. **GEOMETRIDAE:** *Glenoides texanaria*, *Ectropis crepuscularia*, *Anavitrinella pampinaria*, *Iridopsis defectaria*, *Melanolophia signataria*, *Hypagyrtis unipunctata*, *H. esther*, *Euchlaena amoenaria*, *Probole amicaria*, *Eutrapela clemataria*. **DREPANIDAE:** *Oreta rosea*. **LIMACODIDAE:** *Apoda biguttata*, *Prolimacodes badia*. **ZYGAENIDAE:** *Alcolothus rectarius*. **PYRALIDAE:** *Palpita magniferalis*, *P. quadristigmalis*, *Chalcoela pegasalis*, *Desmia funeralis*, *D. maculalis*, *Dolichomia olinalis*, *Dolichomia* sp. **GELECHIIDAE:** *Aroga* sp. **COSMOPTERIGIDAE:** *Euclamsia bassetella*. **ACROLOPHIIDAE:** *Acrolophus* spp. (2).

Moultrie, Colquitt Co., GA, June 23-24, 2007, with ERA and IF:

NOCTUIDAE: *Bellura densa* (COUNTY), *Archanara oblonga* (COUNTY, farthest south), *Spodoptera latifascia* (COUNTY). **GEOMETRIDAE:** *Digrammia gnophosaria*. **COSSIDAE:** *Givira francesca*.

Doerun Pitcherplant Bog NA, Colquitt Co., GA, June 23-24, 2007, with ERA and IF:

PRODOXIDAE: *Tegeticula yuccasella* (several; but no apparent *Yucca* nearby). **ARCTIIDAE:** *Holomelina laeta*, *Estigmene acraea*. **NOTODONTIDAE:** *Heterocampa subrotata*, *Schizura* sp. nov. **NOCTUIDAE:** unidentified small brown noctuid (also taken at Horse Creek in April/June, COUNTY); *Phytometra rhodarialis*, *Diphthera festiva*, *Exyra semicrocea*, *Spragueia apicalis* (COUNTY), *Acontia aprica*, *Callopietria cordata* (COUNTY), *C. granitosa* (COUNTY), *Phosphila miseloides*, *Elaphria exessa*, *Leucania incognita*, *Anicla (Euagrotis) sullivanii* (COUNTY). **GEOMETRIDAE:** *Macaria varidaria*, *Digrammia eremiata*, *D. gnophosaria*, *Eumacaria latiferrugata*, *Synchlora frondaria* (COUNTY), *Idaea taturata*, *Scopula lautaria*, *S. umbilicata* (COUNTY; STATE?), *S. compensata* (COUNTY; STATE?). **PYRALIDAE:** *Dioryctria amatella*, *D. ebeli* (COUNTY), *D. clarioralis*, *Pyrausta phoenicialis*, *Paraponyx allionealis*, *P. maculalis*, *Lygropia tripunctata* (COUNTY; STATE?), *Diastictis pseudoargyralis*, *Hellula phidilealis*. **TORTRICIDAE:** Several spp. **LIMACODIDAE:** *Lithacodes fasciola*. **COSSIDAE:** *Givira francesca*, *G. anna*. **SESSIDAE:** *Synanthedon acerni* (dark form "tepperi"), *S. rubrofascia*. **COSMOPTERIGIDAE:** *Triclonella pergandeela*.

Statesboro, Bulloch Co., Lance Durden:

SESIIDAE: *Podosesia syringae*, 26 & 31 Mar. (pheromone trap); *Synanthedon acerni*, 3 Apr. (light); *Synanthedon rubrofascia*, 24 June (pheromone trap); *Synanthedon scitula*, 9 May (bait trap: banana, red wine, etc.); *Synanthedon exitiosa "barnesii"* (these perfectly match fig. 40 in Plate 2 of MONA 5:1 (1988) 8 & 21 June, 3 Jul. 2007 (pheromone trap).

Savannah, Chatham Co., Sept. 5, Robert Biro:

ARCTIIDAE: *Syntomeida epilais* (COUNTY).

Taylor Co, Michael Boehm and Pierre Howard, July 16:

LYCAENIDAE: King's Hairstreaks (*Satyrium kingi*).

Tuckahoe WMA, bordering the Savannah River in Screven County, July 27, Tim Miller and Russ Wigh:

NYMPHALIDAE: Seminole Texan Crescent (*Anthanassa texana seminole*), Creole Pearly Eye (*Enodia creola*), Appalachian Eyed Brown (*Satyrodes appalachia*).

Savannah National Wildlife Refuge, Georgia side of the Savannah River:

Aug 13, Tim Miller and Russ Wigh, and Aug. 17, Michael Boehm and Pierre Howard:

HESPERIIDAE: Rare Skipper (*Problema bulenta*), Byssus Skipper (*Problema byssus*). **NYMPHALIDAE:** Creole Pearly Eye (*Enodia creola*).

UGA Bamboo Farm and Gardens, U.S. 17, south of Savannah, Chatham Co., 8 Sept., Tim Miller and Russ Wigh: **HESPERIIDAE:** *Urbanus dorantes*.

Harris Neck NWR, McIntosh Co., Aug. 17, Michael Boehm and Pierre Howard:

LYCAENIDAE: Ceraunus Blue (*Hemiargus ceraunus*), White M Hairstreak (*Parrhasius m-album*). **PIERIDAE:** Barred Yellow (*Eurema daira*). **NYMPHALIDAE:** Zebra (25+, *Heliconius charitonius*), Phaon Crescent (*Phyciodes phaon*).

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

The following Mississippi records are reported by Ricky Patterson:

October 1, 2006, Natchez Trace Parkway, mile 253.1, Lee County: *Schinia nubila*, *Schinia arcigera*.

April 22, 2007, Boy Scout Camp Warren Hood, Copiah County: *Fixsenia ontario ontario*, *Polites verna*, *Euphyes vestris metacomet*, *Celastrina neglecta*.

April 27, 2007, Natchez Trace Parkway, mile 41.6, Claiborne County: *Enodia creola*, *Enodia portlandia missarkae*.

July 1, 2007, Jeff Busby Park, Natchez Trace Parkway, mile 194, Choctaw County: *Catocala sappho*, *Catocala vidua*, *Satyroides appalachia appalachia*.

July 1, 2007, Cypress Swamp, Natchez Trace Parkway, Madison County: *Catocala lacrymosa*, *Catocala insolabilis*, *Catocala sappho*, *Catocala nebulosa*, *Catocala vidua*, *Catocala resecta*.

August 19, 2007, Vicksburg, Warren County: *Asterocampa celtis celtis*, *Enodia creola*, *Enodia portlandia missarkae*, *Enodia anhedon*, *Cyllopsis gemma*.

September 7, 2007, 3 miles east of Big Creek, Calhoun County: *Euphyes dion*, *Poanes yehl*.

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

The following selected moth records were submitted by Scott Hartley (Superintendent, Weymouth Woods State Natural Area). All were photographed at Weymouth Woods, Moore County, either at a sheet with a 15w UV blacklight or at porch lights. Most have been previously recorded at Weymouth Woods and are represented by voucher specimens in the park's reference collection.

COSSIDAE:

Givira francesca, July 10 (determined by Bo Sullivan).

GEOMETRIDAE:

Digrammia ocellinata, 2007-08-23 (**COUNTY**). This is the first record for this species at this site. Many other locust-feeding species have been recorded at this site, including the following:

Heliomata infulata, April 25. This and other locust-feeding species at this site are associated with *Robinia nana*, which is common over much of the natural area.

ARCTIIDAE:

Grammia placentia, May 13; August 12. Fairly frequent within the site, which consists primarily of xeric sandhills dominated by longleaf pine. *Holomelina laeta*, August 20. Associated seepage bogs, of which there are several within the site.

NOCTUIDAE:

Chytonix sensilis, August 16, 23. Fairly frequent, probably in association with the frequent prescribed burns done at this site.

Exyra ridingsii, May 21. First record for this species at this site despite frequent attempts in the past to find it.

Isogona tenuis, August 16 (**COUNTY**). Probably a stray; no hackberries are known to grow in the vicinity of the natural area.

Schinia saturata, August 20. This species is common in the Sandhills, but the color morph shown in the image is markedly different from most individuals.

Schinia siren, August 22. Fairly common in the Sandhills.

Schinia sanguinea, September 10. This is the first record for this species at Weymouth Woods, although we have frequently checked a large patch of *Liatris* for this species in the past.



Chytonix sensilis (submitted by Scott Hartley)



Schinia saturata (submitted by Scott Hartley)



Schinia siren (submitted by Scott Hartley)



Schinia sanguinea
(submitted by Scott Hartley)

The following selected records for both the summer and spring seasons were submitted by Harry LeGrand:

Summer Records

Place names refer to counties unless otherwise stated, and records are not new county reports unless indicated. WC = Will Cook, HL = Harry LeGrand, JP = Jeff Pippen, TW = Ted Wilcox. The summer was very dry; many areas are more than 10" of rainfall below normal for the year. And, August was the hottest month of all-time for some cities. Not unexpectedly, most resident species were in reduced numbers, and the volume of northbound migrants was a fraction of normal. Records are from June - August 2007.

PIERIDAE:

Pontia protodice, seemingly in steep decline now in North Carolina, the only one reported in 2007 to date was at an arboretum in Raleigh in Wake on August 3 (HL *et al.*).

LYCAENIDAE:

Feniseca tarquinius, always a good find, and very rare in most of the Coastal Plain, one was noted in Pitt (COUNTY) on August 12 by Salman Abdulali.

Satyrium edwardsii, four were seen and photographed at Carvers Creek State Park in Cumberland on June 6 (HL, Ed Corey). This site lies in the sandhills region, at the eastern edge of the species' range.

Satyrium kingi, HL observed a sizable colony of at least six adults in western Robeson (COUNTY) on June 22.

Symphlocos tinctoria is common in the flatwoods at the site.

NYMPHALIDAE:

Enodia creola, the status of this species and *Enodia portlandia* are not well known in the Piedmont and mountains. However, the former species was photographed in Wilkes on July 21 by TW and in Stokes (COUNTY) on July 23 by Dennis Burnette. TW has found the species on a number of occasions in the past two years on the Wilkes Community College campus.

Enodia portlandia, Dennis Burnette photographed (confirmed by HL) one in Stokes (COUNTY) on July 23. Both of these two pearly-eyes were found at Moratock Park, and much *Arundinaria gigantea* is present.

HESPERIIDAE:

Urbanus dorantes, roughly the seventh state record of this stray came from Orange (COUNTY), where JP photographed one in a powerline clearing in Duke Forest on June 5. The species was certainly carried or

- blown into the state by a tropical storm that had passed up the coast from Florida only a few days earlier.
- Thymelicus lineola*, this species was found at several new meadows in the northwestern corner of the state by TW between June 16 and July 6, with a state record count of 17 adults in Ashe on July 2. One in Watauga (COUNTY) on June 30 extended the range southward very slightly. Despite it being a non-native species, it has spread southward very little in recent years, and still has been found in just three counties in the state.
- Polites mystic*, an excellent count of 20 adults was made on June 2 by HL, JP, and others at the large colony in Alleghany first discovered in 2006. Even more notable was a southerly range extension made by TW, as he photographed three individuals in northern Watauga (COUNTY) on June 21.
- Problema byssus*, normally hard to find in the first brood, a number of biologists (HL *et al.*) observed the species in the state between June 14-21, implying a very narrow flight season. Records came from Columbus, Cumberland, Onslow, Pender, and Robeson (COUNTY).
- Problema bulenta*, an expedition to find the species, following a successful one a year ago, turned up approximately six adults, mostly fresh males, in the Cape Fear River marshes in New Hanover on August 12. WC obtained a number of photographs.
- Euphyes pilatka*, out of habitat, and several miles from sawgrass marsh, one was surprising in a "powerline savanna" in Craven on August 26 (HL).
- Euphyes dion*, Chris McEwen submitted photographs to HL and WC to document individuals seen at a quarry in Mecklenburg (COUNTY) on August 24 and 28. These records extend the range westward in the state by roughly 50 miles.
- Euphyes berryi*, the species was again found in a "powerline savanna" in Croatan National Forest in Craven, where JP and WC had two individuals on August 26.
- Atrytonopsis hianna*, this taxon is certainly not as rare in the northwestern part of the state as formerly believed, as TW had records in June for Alleghany, Ashe, Watauga (COUNTY), and Wilkes (COUNTY).
- Amblyscirtes vialis*, this species has become alarmingly scarce in the state in 2006-07, and one photographed in Wilkes on August 31 (TW) was most welcome.
- Amblyscirtes alternata*, perhaps the first record for Croatan National Forest, one was observed by HL near Havelock in Craven (COUNTY) on August 26. This might represent the current northern edge of the range, as the species has never been found farther northward in the state and as it might be extirpated from Virginia.

Spring Records

Place names refer to counties unless otherwise stated, and records are not new county reports unless indicated. WC = Will Cook, HL = Harry LeGrand, JP = Jeff Pippen, TW = Ted Wilcox. The spring was warmer than usual, and many species' flight periods were advanced by one or two weeks. Records are from March - May 2007.

PAPILIONIDAE:

Papilio cresphontes, very rare in the foothills of the Piedmont, and presumably representing a resident population, was a report of two adults in Caldwell (COUNTY) on May 15 by James Padgett. The observer noted that *Ptelea trifoliata*, the presumed hostplant, is present at the site.

LYCAENIDAE:

- Satyrium favonius*, this taxon is very rare away from coastal forests. Notable in the Piedmont were singles of *S. f. ontario* seen by Shay Garriock in Chatham (COUNTY) and by Derb Carter in Orange, both on May 13, and another in Orange on May 27 by JP. JP also observed at least 20 individuals of *S. f. favonius* (or a taxon leaning toward that subspecies) at a well-known site in southern New Hanover on May 17.
- Callophrys augustinus*, one was carefully observed in prime heath bluff habitat at Hemlock Bluffs State Natural Area, Wake (COUNTY), on April 1 by Mark Johns.
- Callophrys henrici*, Ralph Preston photographed one in Macon (COUNTY) on March 31; this is only the second mountain county record for the state.
- Callophrys hesseli*, the only report for the season was of three seen and photographed by WC, HL, and JP in Bladen on the somewhat early date of March 25.
- Celastrina neglectamajor*, one of the higher state counts was 41 tallied by WC and JP on May 19 in the Buck Creek area of Clay.
-

NYMPHALIDAE:

Phycodes phaon, a good local count of 20 individuals was made at Fort Macon State Park in Carteret on April 14 (WC, HL).

Enodia creola, though not a new county record, one photographed in central Wilkes on May 26 by TW further corroborates the species' presence in the state's foothills.

Satyrodes appalachia, HL observed two individuals on May 10 along the Lumber River in Robeson (COUNTY). This is a slight southeastward range extension into the central Coastal Plain.

HESPERIIDAE:

Autochton cellus, Kevin Caldwell had records for this rarity at one site in Madison and two in nearby Buncombe, with a peak daily count of three. Dates ranged from April 29 to May 29. Owen McConnell observed two, apparently the same individuals, on both May 14-15 in central Graham.

Pyrgus centaureae wyandot, TW found the species at a new Ashe site, plus at one or two sites from previous years. Dates of observations and photos ranged from March 31 to April 29, with a peak count of eight. WC and JP also photographed several individuals.

Polites mystic, at the sole state site, discovered last year, in Alleghany, the flight was perhaps two weeks earlier this year, as WC and TW counted 19 individuals on May 27.

Amblyscirtes vialis, for some reason, this species has been scarce in the state in 2006-07. The only spring season report was of one photographed by TW on May 6 in the Piedmont portion of Wilkes.

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

Tennessee: John Hyatt, 5336 Foxfire Place, Kingsport, TN 37664, E-Mail: jkshyatt@aol.com

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

Ed and Charles send in the following report:

The tour through CTX and into WTX includes samplings from the following counties from 2007, 19-28 May. No tour into BIBE, where another 20 spp. could be added to the "tourist list," where NCR's would be doubtful. Sixteen was not bad for the untamed desert. Hitting 100 was exceptional, given the absence of at least a dozen "gimmees."

A = ALL

B = Brewster

C = Caldwell: Luling

G = Gonzales: I-10 rest area

J = Jeff Davis: Davis Mts.SP/Ft. Davis

K = Kinney: Pinto Creek

M = Medina: Hondo Creek

Pe = Pecos: Longfellow Draw

Pr = Presidio: BB Ranch SP (Sauceda)

T = Terrell: Sanderson & vic.

U = Uvalde

V = Val Verde

* = NCR

S = STATE RECORD

County & State Records will be assigned locales where multiple localities in a county were sampled; otherwise they were found at major sites above. SS records will be specific.

Hesperiidae:

001. *Achalarus casica* J

002. *Thorybes pylades albosuffusa* B

003. *Cogia hippalus* B, Pr

004. *Staphylus ceos* Pr

005. *Pholisora catullus* B, Pe, Pr, U, M, T

006. *Gesta invisius* M,K

007. *Erynnis horatius* M

008. *Erynnis baptisiae* M*, C*

009. *Erynnis tristis tatus* J

010. *Erynnis funeralis* A,K*

011. *Systasea pulverulenta* M,U,V

012. *Celotes nessus* M,K

013. *Pyrgus scriptura* Pe

014. *Pyrgus communis* A

015. *Pyrgus albescens* M, K, V, B, Pe, Pr, B, J

016. *Pyrgus philetas* B, J, Pe,T

017. *Pyrgus oileus* C, G*

018. *Heliopetes macaira* G*

019. *Copaeodes aurantiaca* A (Cont. on page 118.)

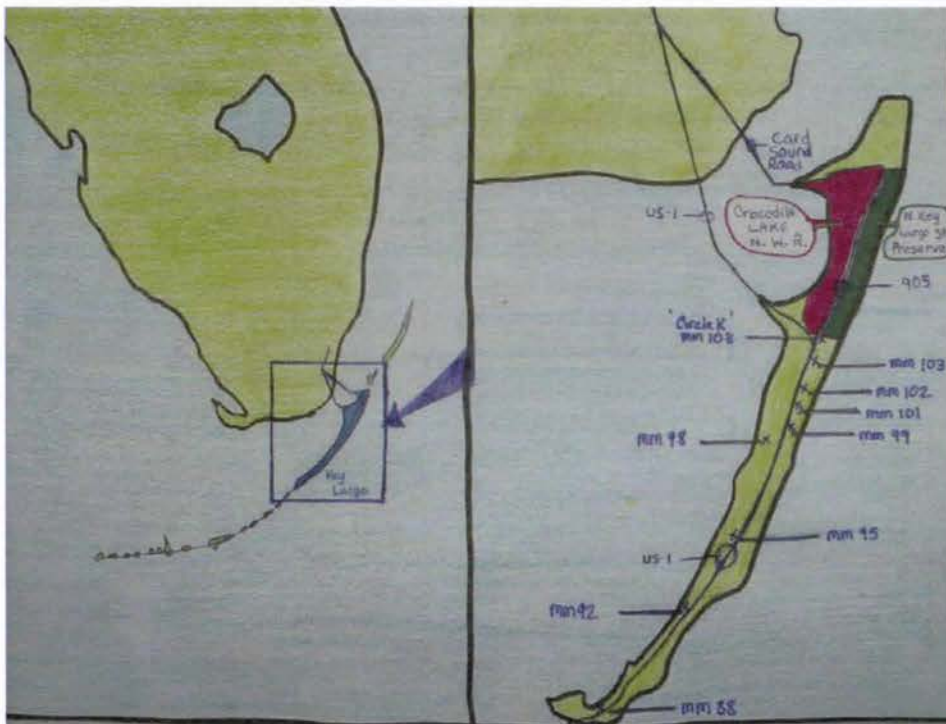


Fig. 1. This map shows the 9 Key Largo collecting sites designated by an "x" and the mile marker. It also shows the proximity of these sites to Crocodile Lake National Wildlife Refuge in North Key Largo designated by the burgandy color.

Photographs and drawing accompany David Fine's article starting on page 81: *A Friendly Response to 'Letter to the Editor'*.

Fig. 1.



Fig. 2.



Fig. 4.



Fig. 3.

Fig. 2. June 16th, 2004, at 5:08 A.M. (Croc. Lake Ntnl WLR)

Fig. 3. June 22nd, 2004, at 5:22 A.M. (Croc. Lake Ntnl WLR)

Fig. 4. July 12th, 2004, at 5:04 A.M. (Croc. Lake Ntnl WLR)

These three pictures (Fig. 2-4) show a healthy number of insects appearing at a light sheet in Crocodile Lake National Wildlife Refuge in June and July of 2004. Coincidentally, on all three of these nights at the 9 "city lights" location, few if any moths were seen.

020. *Copaeodes minima* U
 021. *Amblyscirtes aenus* B
 022. *Amblyscirtes oslari* J
 023. *Amblyscirtes texanae* Pr
 024. *Amblyscirtes nysa* M, K, V, B, Pr, J
 025. *Amblyscirtes eos* T, Pe
 026. *Nastra julia* U
 027. *Lerodea eufala* A
 028. *Lerema accius* G
 029. *Hylephila phyleus* A, T*
 030. *Atalopedes campestris huron* A
 031. *Atrytonopsis edwardsi* B, Pr, J
 032. *Atrytonopsis viericki* Pr

Papilionidae:

033. *Battus philenor* A
 034. *Papilio polyxenes asterius* A
 f. "*curvifascia*" J, K, T
 f. "*pseudoamericanus*" U
 034a. *P. p. asterius/coloro* intergrade B, Pr
 035. *Papilio cresphontes* C, G, M, U, K, V, J
 036. *Papilio glaucus* U
 037. *Papilio alexiarses garcia* Pr*
 038. *Papilio multicaudata* B, J

Pieridae:

039. *Kricogonia lyside* A
 040. *Nathalis iole* A
 041. *Eurema mexicana* M*, A except G
 042. *Abaeis nicippe* A
 043. *Pyrisitia lisa* M, U, K
 044. *Colias philodice* J
 045. *Colias eurytheme* A
 046. *Zerene cesonia* A
 047. *Phoebis sennae* (singles in B, J, U, flying, probably *eubule*; no *agarithe* anywhere.)
 048. *Pieris rapae* B
 049. *Pontia protodice* A

Lycaenidae:

050. *Atlides halesus corcorani* G, M, B
 051. *Satyrium polingi* B, J
 052. *Phaeostrymon alcestis* M, B
 053. *Calycopis isobeon* G
 054. *Strymon melinus* A
 055. *Ministrymon azia* Pr*
 056. *Leptotes marina* T, Pe, B, Pr, J
 057. *Brephidium exilis* T, Pe, B, Pr, J
 058. *Zizula cyna* B
 059. *Cupido comyntas texana* J
 060. *Celastrina echo cinerea* Pr ("*neglecta*-type" form. No *ladon* or *neglecta* in WTX)

- 061a. *Hemiargus ceraunus astenidas* A east of Trans-Pecos
 061b. *Hemiargus ceraunus gyas* A West of Trans-Pecos
 062. *Echinargus isola* A
 063. *Plebejus lupini texanus* J, B

Riodinidae:

064. *Calephelis nemesis australis* A (may intergrade w/nominate in T/P) T*
 065. *Calephelis rawsoni* M
 066. *Apodemia m. mormo* B* (Previously known in J, Travis, Bastrop) 10S Alpine
 067. *Apodemia palmeri* Pe, Pr, B

Nymphalidae:

- 068a. *Libytheana carinenta bachmanii* G
 068b. *L. carinenta larvata* A except G
 069. *Danaus plexippus* A
 070. *Danaus gilippus* A west of Bexar Co.
 071. *Adelpha eulalia* M
 072. *Agraulis vanillae incarnata* A
 073. *Euptoieta claudia* A
 074a. *Asterocampa c. celtis* G
 074b. *A. celtis antonia* M, K
 075. *Asterocampa clyton texana* M, K, J
 076. *Asterocampa leilia* A except G, C
 077. *Vanessa virginiensis* A
 078. *Vanessa atalanta rubria* A (1000's in M)
 079. *Vanessa cardui* A
 080. *Vanessa annabella* J
 081. *Nymphalis antiopa* Pr
 082. *Polygonia interrogationis* A (V*, Pr*)
 083. *Junonia coenia* A
 084. *Junonia evarete nigrosuffusa* Pe* (This T/P entity may be n.sp.)
 085. *Poladryas minuta* B, Pr
 086. *Chlosyne janais* M
 087a. *Chlosyne theona bolli* M, K, V
 087b. *C. theona thekla* V (plus *bolli/thekla* intergrades)
 088. *Chlosyne fulvia* T, B
 089. *Chlosyne lacinia* A (*lacinia/crocale* int. in T westward)
 090a. *Texola elada ulrica* M, U, V
 090b. *T. elada perse* B
 091. *Anthanassa texana* A
 092. *Phyciodes graphica vesta* A (1000's in T/P)
 093. *Phyciodes picta canace* Pr, B, J
 094. *Phyciodes phaon* M, K, U, G
 095. *Phyciodes tharos* M
 096. *Anaea aidea* K, V, M*, Pr*
 097. *Anaea andria* G

098. *Cyllopsis pertepida avicula* J,B
 099. *Hermeuptychia sosybius* G

S=1
 *=9

Addendum:

100. *Epargyreus clarus* G*

*NCR=16

Sphingidae:

01. *Agrius cingulata* C*
 02. *Manduca sexta* C*
 03. *Manduca quinque maculata*
 S04. *Ceratomia sonorensis* JS*
 05. *Ceratomia undulosa* C*
 06. *Smerinthus jamaicensis* C*
 07. *Amorpha laothoe* J
 08. *Paonias myops* J
 09. *Pachysphinx occidentalis* Pr, J
 10. *Xylophanes falco* J
 11. *Hyles lineata* A (K*, C*, G*, Pe*)

Saturniidae:

Sphingicampa hubbardi Pr, J

Sesiidae:

Vitacea admiranda M
Zenodoxus mexicanus Pr*, B

Thyrididae:

Thyris maculata V*

*=2

Many moths awaiting determination until mounted/listed. Most * will be for Pr.

Ed continues the previous report with the following additions, background information and other comments:

We went to west Texas May 19-28, with one goal to study the *Chlosyne theona* complex. We were able to find many *theona* at various localities from Kinney and Val Verde Counties, but found none elsewhere. These ranged from mostly "pure" *theona bolli* in Kinney County, to *theona bolli-thekla* intergrades, to nearly "pure" *thekla* in Val Verde County. All were associated with *Leucophyllum frutescens* (Texas Ranger, Cenizo, or Purple Sage). We did not find any adult *theona chinatiensis*, but Bordelon did find a larva on Indian Paint Brush, which proved to be a male *chinatiensis*. Also found in fair numbers in Terrell, Pecos, and Brewster Counties was *Chlosyne fulvia*, including a couple of small individuals from the classic locality, "Fulvia Hill" which is 10 miles east of Sanderson.

Another species, the skipper, *Pyrgus scriptura* was also found at its "classic" locality, 20 miles west of Sanderson, in Pecos County. Bordelon also collected a very dark and beautiful specimen of *Junonia evarete* "nigrosuffusa" at the same location. As remote as this place is, wouldn't you know, but after spending about 30 minutes there we were encountered by the land owner. He was relieved to find that we were only collecting butterflies, not cactus.

Other interesting moths not mentioned in the list are as follows:

Pyralidae: Phycitinae:

Melitara apicigramella, Study Butte, Brewster Co., 21-V-07; Big Bend Ranch, Saucedo, 22-V-07
Zophodia multistriatella, Study Butte
Ragonotia dotalis, Study Butte (our first for this rather rare species)

Lasiocampidae:

Apotolype mayelisae Big Bend Ranch

Virginia: Harry Pavulaan, 494 Fillmore Street, Herndon, VA 22070, E-Mail: pavulaan@aol.com

UNDULAMBIA STRIATALIS (DYAR) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

Fig. 1. *Undulambia striatalis*.

Three specimens of the small pyralid moth *Undulambia striatalis* (Dyar) (Fig. 1) have been collected at sec.24T6SR12E, 4.2 mi. NE of Abita Springs, Louisiana. The dates of capture are: June 6, 1990, May 3, 1998, May 7, 2002.

Munroe (1972) briefly discussed this species and disposed of it with a total of six sentences, stating it occurs from central and southern Florida and northward along the coast to Martha's Vineyard. He also surmised that it is probably a fern feeder because another member of the genus feeds on ferns in Florida. Munroe (1973) pictured *striatalis* on Plate 4.

These three specimens are apparently the first reported records for this species west of Florida and the Atlantic Coast.

Literature Cited

- Munroe, E., in Dominick, R. B., *et al.*, 1972, *The Moths of America North of Mexico*, Fasc. 13.1A, Pyraloidea (in part).
 Munroe, E., in Dominick, R. B., *et al.*, 1973, *The Moths of America North of Mexico*, Fasc. 13.1C, Pyraloidea (in part).

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