Southern Lepidopterists'
NEWS

Est. 1978 *Official Newsletter of the Southern Lepidopterists' Society*

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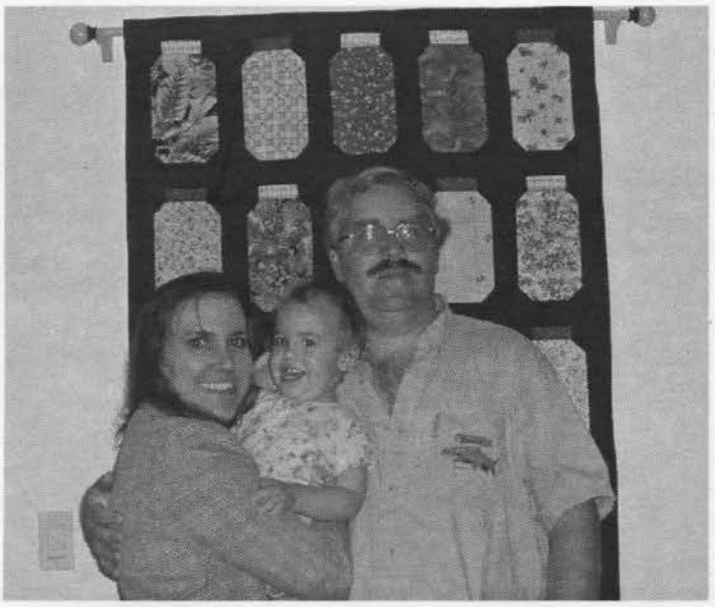
THE OFFICIAL PUBLICATION OF THE SOUTHERN LEPIDOPTERISTS' SOCIETY ORGANIZED TO PROMOTE SCIENTIFIC INTEREST AND KNOWLEDGE RELATED TO UNDERSTANDING THE LEPIDOPTERA FAUNA OF THE SOUTHERN REGION OF THE UNITED STATES (WEB SITE: www.southernlepsoc.org/)

J. BARRY LOMBARDINI: EDITOR

NEW CHAIRMAN OF SOUTHERN LEPIDOPTERISTS' SOCIETY
BY
ROBERT BEIRIGER



Robert Beiriger, wife Teri, and Helen Rose standing in front of quilt titled "bugs in jars".

Unlike some of our past Chairmen, I am not a professional Lepidopterist, just an amateur. I work for the University of Florida at the Everglades Research and Extension Center in Belle Glade, Florida, in Corn Breeding and Genetics. Our station is located on the muck soils that occur south of Lake Okeechobee in Palm Beach County. We currently are trying to produce new disease and insect resistant varieties of sweet corn based on the shrunken 2 (sh2) allele. We also breed silage corn for the dairy industry, north of Lake Okeechobee. My wife, Teri, our 18 month old daughter, Helen Rose, and I live in Loxahatchhee, Florida (Palm Beach County) which is about 15 miles west of West Palm Beach, Florida. My daughter is already showing an interest in insects. Her favorite book is "An Inordinate Fondness for Beetles" by A.V. Evans and C.L. Bellamy. She may just like the nice pictures of the beetles in the book, but it is a start.

I have always had an interest in insects even as a youth. I started collecting insects in Junior High School through a 4-H project and continued my interest with all insects throughout High School. After which, I attended the University of Nebraska, where I received a BS in Entomology/IPM in 1986. In college, I started having a greater interest in Lepidoptera since I worked part time at the USDA ARS greenhouses with Steve Spomer, a well know Lepidopterist. He helped me gain an appreciation of the great variation in the genera Speyeria and Papilio and showed me how to rear butterflies. It was interesting to see butterflies from all over the U.S. being reared during the winter in Nebraska.

After completing my BS and since I could not find full time work, I applied and was accepted for a MS degree at Texas Tech University (TTU) in Lubbock. At TTU, I worked with the local grape/wine industry to determine the Bionomics of the Apple Cane Borer, *Amphericerus bicadautus* (Coleoptera:Bostrichidae), on grape. It was a pest, that at times, caused considerable damage to the local vineyards. I was able to show that removal and burning of dead branches, grape plants and prunings would reduce the damage from this pest. During my time at TTU, I developed a greater interest in beetles while continuing my interest in Lepidoptera. Today, the Bostrichids are one of my favorite groups of wood boring beetles.

I am still interested in all insects, but since do not have unlimited time, I realized several years ago that I could not collect, study, rear, and/or photograph all families of insects. I currently split my time between Lepidoptera (Hesperioidea and Papilionoidea only) and Coleoptera (Cerambycidae, Buprestidae, Cleriidae, along with Cicindelidae, and the Scarabs). If you looked closely at the groups of insects I collect and study, moths are missing. Everyone who knows me well, knows that I do not do moths. I have nothing against moths, I just do not have the room to store and the time to study them. It may have not been the best decision since there are some lovely moths throughout our part of the country. During my collecting trips or during local surveys, I still do collect the moths, they just get sent to someone who will appreciate them more than I do.

The area of the country we live in, Palm Beach County, is an interesting area because we are a little too far south for the more typical Eastern US fauna like *Pterourus troilus, P. glaucus, Megisto cymela, Lethe appalachia, Callophrys gryneus, C. henrici, C. niphon, Satyrium calanus, S. liparops, etc.* that can be collected in Central and sometimes Western Florida. We also are a little too far north to find the typical Florida Keys fauna like *Strymon acis, Eumaeus atala, Ministrymon azia, Chlorostrymon simaethis, Anaea troglodyta, Precis genoveva,* and *Heraclides aristodemus*. Even though species like *Eumaeus atala* will establish breeding populations here, either by natural expansion, movement of their host, or by people who move the butterflies around, they usually do not survive the occasional periods of cold weather we get in Palm Beach County. A few other members of the Keys' fauna like *Strymon martialis, Aphrissa statira,* and *Phocides pigmalion okeechobee* do breed here, but are limited to the coastal area where their host plants are still common. Even though we do get strays from both areas, it can be difficult for butterflies from outside our area to become established since most of their host plants do not even occur in our area or occur in very low numbers. At times, trying to grow some of these host plants here can be difficult. Being as warm as we are throughout the winter, some of the more northern tree hosts do not get enough chill hours to leaf out in the spring or do not leaf out at the proper time. Some years, like the winter of 2001-2002, we received less than 75 chill hours (hours below 45°F.). Also, more tropical trees from the Keys or Caribbean need to be protected from our occasional cold front that passes through. When they pass through, it will go from being in the 70's, drop to near freezing or freezes, and then warm back up to 70 or so degrees in a matter of a few days. It can make the life of a butterfly rearer and gardener a little tough.

In the last few years, thanks to Leroy Koehn, I have been doing more light trapping for beetles and other insects. Those of you who know Leroy know that if you ever go collecting or light trapping with him, you will be stopping at a Waffle House. This stop, usually, is the worst part of the trip. I have had some memorial nights with Leroy collecting at a sheet or the following morning checking the light traps. It has been his interest and knowledge that has made it more interesting and more productive. Light traps work equally well for certain groups of Lepidoptera and Coleoptera. I continue to be amazed at the amount of insects you can catch with a light trap and how much

difference a little change in the conditions like wind speed, moon phase, and temperature can make towards a good night of collecting or a poor one. Light trapping also allows me to go collecting with moth collectors and not have to worry about fighting over the insects. Beetles tend to mess up moth wings and most moth collectors are happy to see me get the beetles out of their way.

My current projects include working with *Megathymus yuccae* to determine their hosts and flight time in Southern Florida and fauna survey of local natural areas. I am also collecting as many host records, flight time and location data from all over the United States for the beetle family Bostrichidae. In the future, I plan to produce range maps, and flight times for all the species that occur in North America, North of Mexico.

I have been a member of the Southern Lepidopterists' Society for several years, and I have been the zone coordinator for Florida for the past couple of years. This is my first stint as an officer in our Society. I have seen our Societygo through many changes over the past years and hopefully, as a Society, we can get back to our true enjoyment, the studying of the Lepidoptera of the Southern United States. We have an interesting and diverse fauna and all should be done to understand it before it is too late. Here in Florida, the fragmentation and destruction of habitat caused mostly by development and some by agriculture, continues at an alarming pace. I sometimes have to wonder, if the people moving into these new developments realize what was lost in order to provide them with a new home. We must continue to do our best to inform and teach others about the fauna of our area. I believe that the newsletter can be a big help and I encourage all to write an article about the Lepidopteran fauna or some part of the fauna of your area. If that is not possible, then at the vary least please inform the zone coordinators to what is happening in your area, interesting butterflies or moths seen in your garden, early or late flight, *etc*. If you find something interesting, but do not know what it is, then submit a picture to our "unknown section" of our web site (www.southernlepsoc.org) for an ID. Reports to zone coordinators, articles or comments to me or the other officers, can all be made through our web site. It is your society, lets all work together to make it better.

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THE SOUTHERN LEP. SOC. WEB SITE: USE IT!!

BY

JAMES K. ADAMS & DAVE MORGAN

Okay, for those of you who somehow missed the announcement the first time (and there are many of you), **OUR WEB SITE IS UP AND RUNNING**, ready for you to use. The address is: http://www.southernlepsoc.org/

If you are wondering what you can find on the web site, or, perhaps more importantly, what you can **do directly through** the web site, the following is just a partial list:

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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. Membership dues are annual:

Regular	$15.00
Student	$12.00
Sustaining	$25.00
Contributor	$50.00

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 Web Site: www.southernlepsoc.org/

1. Send comments/requests/suggestions directly to the chairman.
2. Send articles/pictures directly to the newsletter editor.
3. Send records directly to the State coordinators.
4. Send tidbits directly to the web site coordinator for potential inclusion on the web site.
5. Post pictures to and get suggested identifications from the "Unknowns" page on the web site.
6. You can print off membership forms for people who have yet to join.

Additionally, you can find information about the society (history, constitution, *etc.*), information about the contents of the most recent newsletters, supplementary information to the newsletter, and links to web sites that are particularly relevant to the SLS.

Dave has just recently added a "Discussions" page, where you can join and participate in discussions having to do with Lepidoptera, particularly about the Lepidoptera in the region covered by SLS.

So, don't hesitate. Use the web site, and pass the address on to friends!!

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NEW MEMBERS

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THE OCCURRENCE OF *SYNANTHEDON PICTIPES* (GROTE & ROBINSON) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

Abstract. Multiyear dates of capture of ***Synanthedon pictipes*** (G.& R.), an extremely common pest of trees of stone fruits (almond, cherry, peach and plum), are illustrated along with a brief review of some recent literature records. This species, commonly known as the "lesser peach tree borer" occurs throughout most of eastern North America according to a plethora of agricultural literature.

Prior mention of ***Synanthedon pictipes*** (G.& R.) (Fig. 1) specifically occurring in Louisiana seems to be absent among the more easily accessible literature, but surely the species has to have been noted by workers in areas of peach agriculture in the state.

Fig. 1. Adult ***Synanthedon pictipes.***

According to Eichlin and Duckworth (1988), ***pictipes*** has two annual generations throughout most of its range. Taft, Smitley, and Snow (1991) state that ***pictipes*** has one annual generation in the north central United States. Brown and Mizell (1993) state that ***pictipes*** has at least two generations in Florida, adults occurring year-round, and report Amelanchier species, apple, and pear as host plants. None of these authors offer any proof of these supposed one or two per year annual broods. In Louisiana, I have taken adult ***pictipes*** with regularity February through November for the past 30 years using fermenting fruit bait traps, ultraviolet light traps, and pheromone traps. Based on the dates shown here, there appear to be at least five peak flights in Louisiana (Fig. 2), though it occurs on the wing for nine months. A more detailed study is needed to ascertain the true number of annual broods. I have taken this species in East Baton Rouge, Natchitoches, St. John the Baptist, and St. Tammany parishes, but surely it should be found in abundance just about anywhere wild cherry (*Prunus serotina*) occurs. Wild cherry trees in St. Tammany parish are always severely infested with this pest.

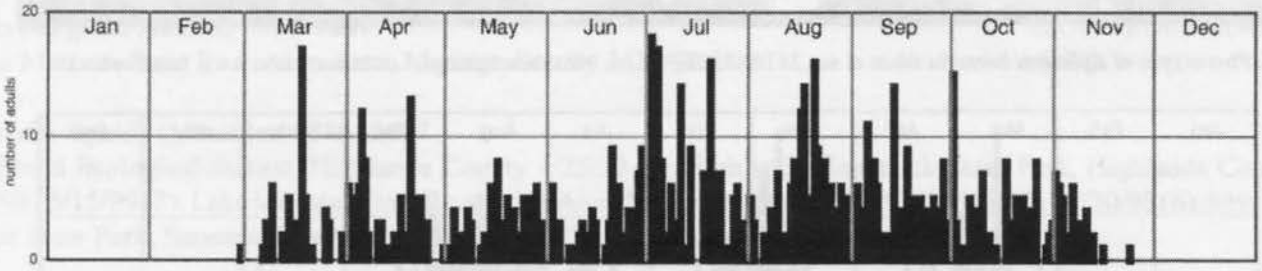

Fig. 2. ***Synanthedon pictipes*** taken at sec.24T6SR12E, 4.2 mi. NE Abita Springs, Louisiana. N = 881.

Literature Cited

Brown, L. N. and R. F. Mizell 1993. The clearwing borers of Florida (Lepidoptera: Sesiidae). *Tropical Lepidoptera* Vol. 4, Suppl. 4, 21pp.

Eichlin, T. D. and W. D. Duckworth 1988. Sesoidea: Sesiidae. In Dominick, B.B. *et al.* (eds.), *The Moths of America North of Mexico.* Fasc. 5.1 Washington: Wedge Ent. Res. Found, 176 pp.

Taft, W. H., D. Smitley, and J.W. Snow 1991. A guide to the clearwing borers (Sesiidae) of the north central United States. USDA, *N. Cent. Reg. Publ.* (East Lansing), 394: 1-30.

THE MANY FACES OF THE TULIP TREE MOTH *EPIMECIS HORTARIA* FABRICIUS

BY
VERNON ANTOINE BROU JR.

The tulip tree beauty, ***Epimecis hortaria*** Fabricius is a highly variably marked large geometridae species occurring over much of the eastern United States. Both Forbes (1948), and Covell (1984) mention three different forms occur. I have found the species to be highly variable even at a single location with an infinite number of macular forms and shades of white, brown, gray, and black. Fig. 1 depicts just a small sample of the many variations.

It appears that at least four annual broods occur in Louisiana with adult specimens found in all 12 months (Fig. 2). Covell (1984) list food plants as pawpaw, poplars, sassafras, and tulip tree.

In Louisiana, hortaria has been collected in the following parishes: Ascension, East Feliciana, Evangeline, Iberville, St. John the Baptist, St. James, Tangipahoa, and West Feliciana.

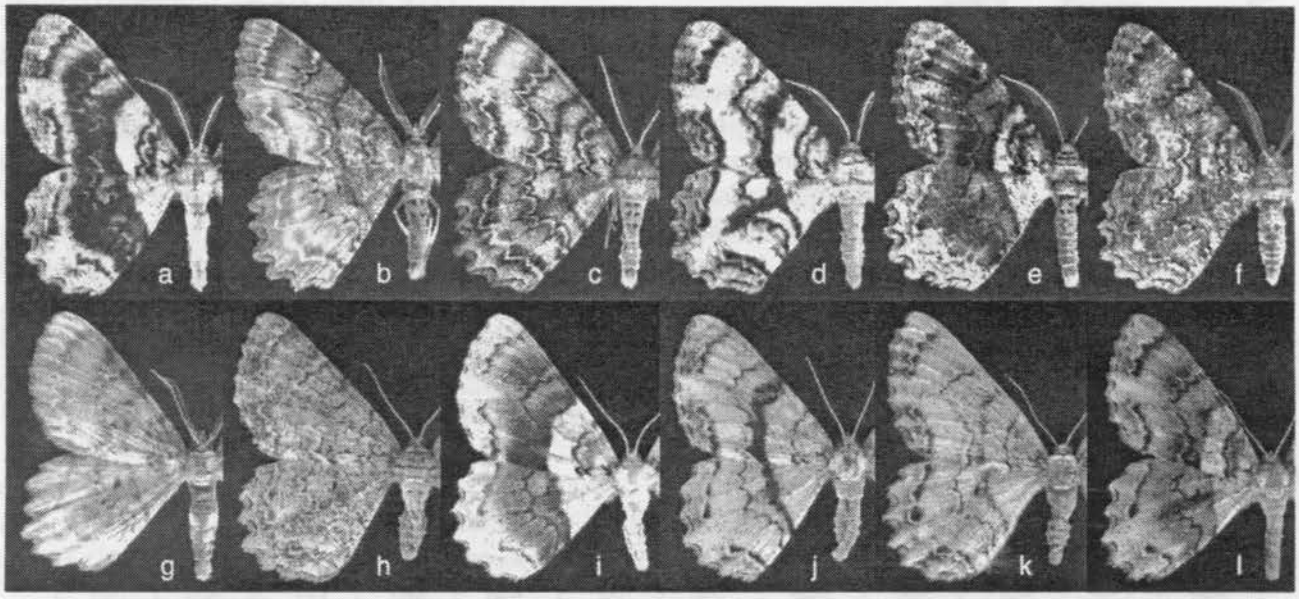

Fig. 1. Phenotypes of ***Epimecis hortaria*** taken at sec.24T6SR12E, 4.2 mi. NE Abita Springs, Louisiana, males a - g, females h - l.

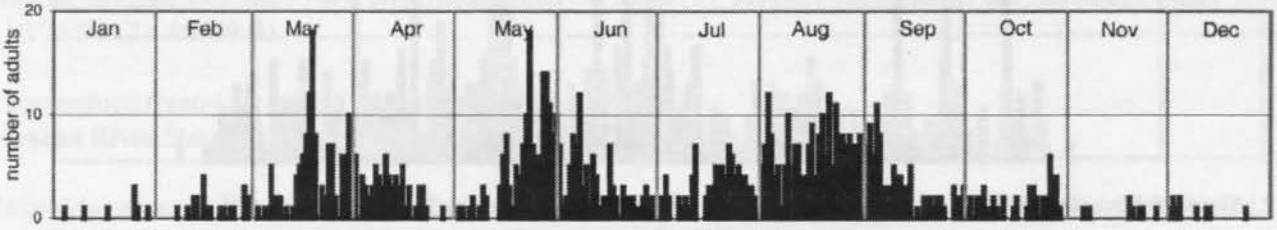

Fig. 2. ***Epimecis hortaria*** collected at sec.24T6SR12E, 4.2 mi. NE Abita Springs, Louisiana. N=942.

Literature Cited

Covell, C.V., 1984. *A Field Guide to the Moths of Eastern North America*. Houghton Mifflin Co., Boston. 469 pp.
Forbes, W.T.M. 1948. Lepidoptera of New York and neighboring states, Part II.

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SCHINIA BIMATRIS (HARVEY) IN LOUISIANA

BY
VERNON ANTOINE BROU JR.

Schinia bimatris (Harvey) (Fig. 1), is a flower moth described in 1875 from Bosque County, Texas. Hardwick (1996), provided little information about this species, disposing of it with a mere three sentences in his recent monograph of North American Heliothentinae.

This univoltine species is newly recorded for Louisiana and represented by the limited number of specimens collected at ultraviolet light in three parishes (Fig. 2) by this author over the past 20 years (Fig. 3).

Schinia bimatris is uniquely colored among the many species of the genus. It's upper thorax and wings are glossy brilliant white with only a light dusting of light-brown scales confined to the outer margin of the hindwing, most concentrated near the apex. The head is bright orange, and the abdomen is also white in fresh specimens, but in pinned and spread specimens the abdominal fluids leach to the surface slowly causing the abdominal scales to appear off-white to dull orange without surface greasiness, but some continue to darker blackish color as the leaching process continues. Because of the all white wings, ***bimatris*** may be easily overlooked in light trap samples which are often filled with hundreds of common and similarly colored white arctiidae specimens of many species, some occurring in pest proportions.

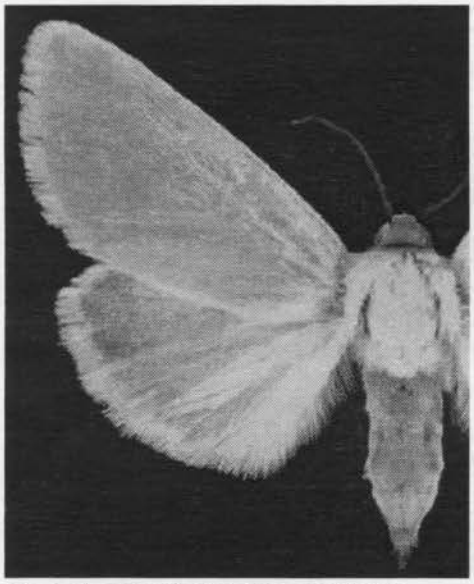

Fig. 1. ***Schinia bimatris*** (Harvey), female

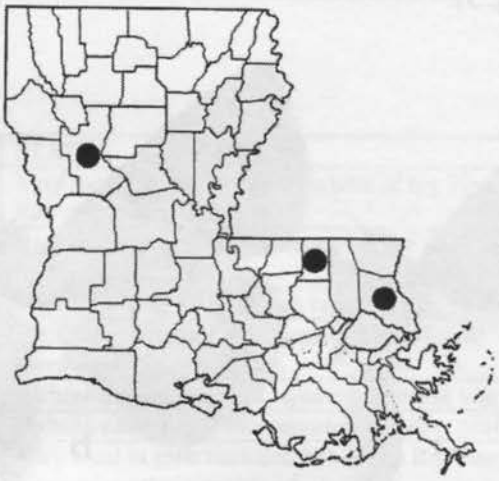

Fig. 2. Parishes in which ***Schinia bimatris*** have been captured.

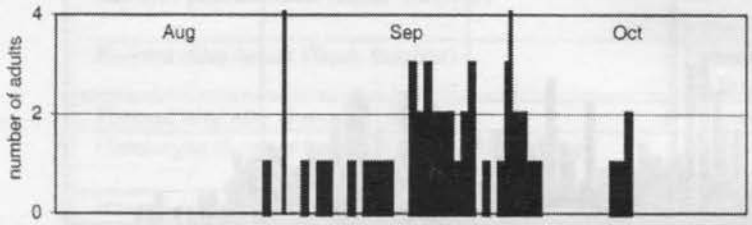

Fig. 3. Adult ***Schinia bimatris*** captured in Louisiana. N = 44.

Literature Cited

Hardwick, David F. 1996. *A Monograph to the North American Heliothentinae (Lepidoptera: Noctuidae).* Privately printed. 279 pp., 25 plates.

Harvey L.F. 1875. On Texas Lepidoptera collected by Mr. Belfrage. *Bulletin of the Buffalo Society of Natural History.* 3: 3-16.

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DEFINITION: Frass - is the excrement of caterpillars; usually in pellet form.

THE OCCURRENCE OF *BAGISARA BROUANA* FERGUSON IN SOUTHEAST LOUISIANA

BY
VERNON ANTOINE BROU JR.

The noctuid moth ***Bagisara brouana*** Ferguson (Fig. 1) appears to have a limited distribution, still currently known from only St. Tammany and Tangipahoa parishes in Louisiana, despite its known existence for about 25 years (Fig. 2). Ferguson (1997) described two new species of ***Bagisara***, including ***brouana***, in a genus now containing 19 described new world species. At that time, ***brouana*** was known only from southeast Louisiana and southeast coastal Mississippi (Hancock, Harrison, and Jackson counties), and it appears its known restricted distribution remains the same.

The coloration of ***brouana*** appears dark-brown overall with three narrow somewhat parallel transverse bands on the forewings. The species is sexually dichromatic with respect to the wing coloration. The males are distinctly lighter in brown coloration than the females, especially so on the hindwings.

I suspect ***brouana*** utilizes ***Hibiscus aculeatus*** Walt. (The Pineland Hibiscus) as its food plant, which is common at the Abita Springs site. This is a large white mallow perennial that grows to three feet in height, and is found abundantly especially along roadsides, ditches, and disturbed sites. There appear to be three or four annual broods of ***brouana*** (Fig. 3).

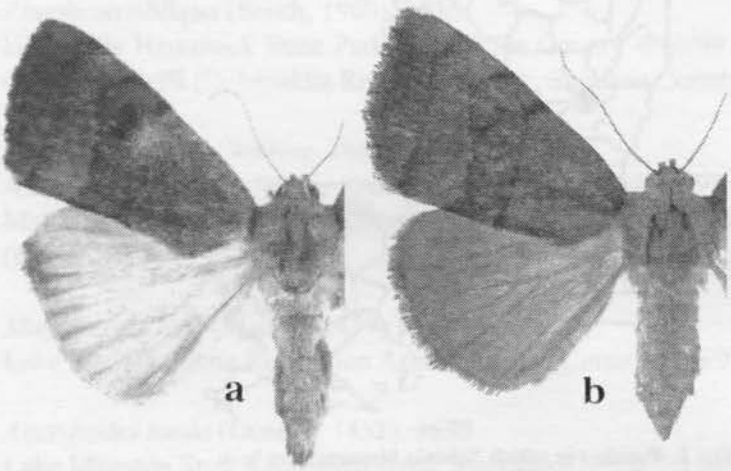


Fig. 1. *Bagisara brouana* a. male, b. female.

Fig. 2. Parishes in which ***Bagisara brouana*** have been collected.

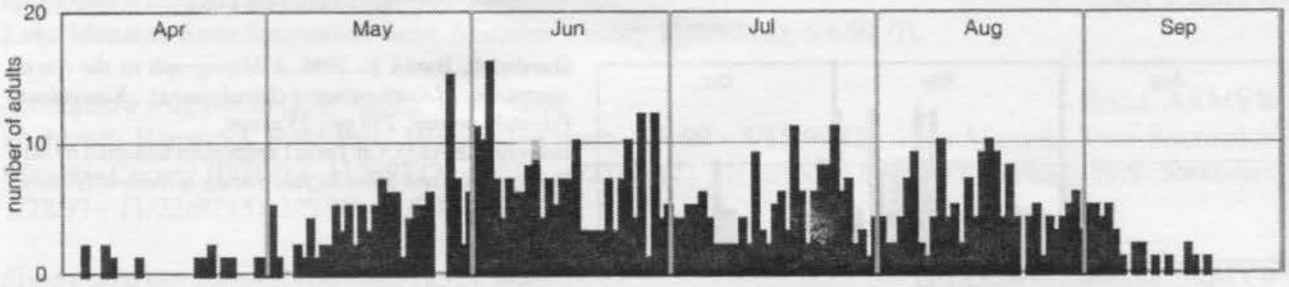
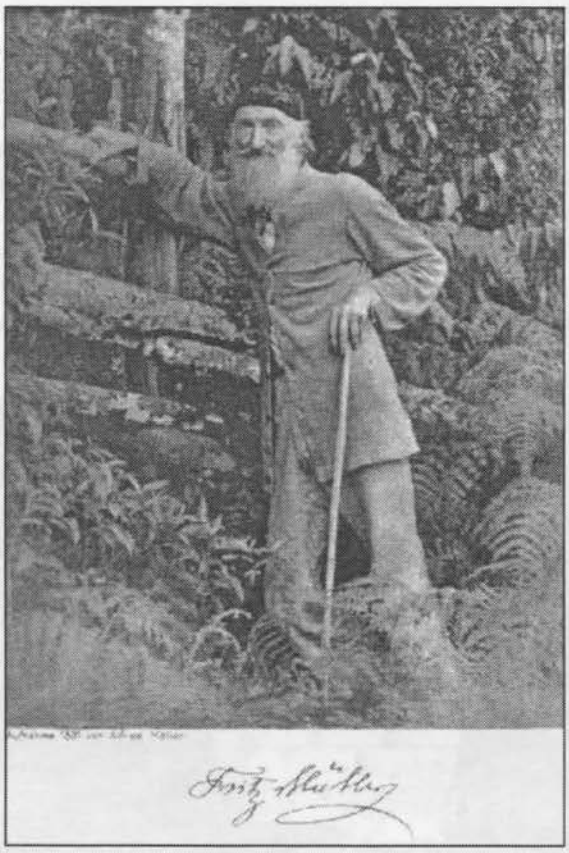


Fig. 3. ***Bagisara brouana*** captured at sec.24T6SR12E, 4.2 mi. NE Abita Springs, Louisiana. N = 656.

Literature Cited

Ferguson, Douglas C. 1997. Review of the new world ***Bagisarinae*** with description of two new species from the southern United States (Noctuidae). *Jour. Lepid. Soc.* 51:344-357.



FRITZ MÜLLER IN 1891

* A major early Darwinian.
* Extraordinarily gifted naturalist.
* Published many papers on life history, morphology, systematics, and evolution of butterflies and other insects.
* Proved that mimicry between pairs of unpalatable species, now called Müllerian mimicry, could be adaptive.

Müller's "number-dependent" model of mimicry

In perhaps the earliest application of mathematical arguments to evolution, Müller showed not only that each member of a pair of unpalatable species could benefit from mimicry, but also that the ratio of advantages for mimicry was greatly in favour of the rarer species -- in proportion to the square of the ratio of relative abundances. Müller assumed that both species are equally unpalatable; however, the results also clearly hold for unequal palatabilities.

"Let a_1 and a_2 be the numbers of two distasteful species of butterflies in some definite district during one summer, and let n be the number of individuals of a distinct species which are destroyed in the course of a summer before its distastefulness is generally known. If both species are totally dissimilar, then each loses n individuals. If, however, they are undistinguishably similar, then the first loses $a_1n/(a_1 + a_2)$ and the second $a_2n/(a_1 + a_2)$. The absolute gain [in numbers] by resemblance is therefore for the first species $n - a_1n/(a_1 + a_2) = a_2n/(a_1 + a_2)$; and in a similar manner for the second, $a_1n/(a_1 + a_2)$. This absolute gain, compared with the occurrence of the species, gives for the first, $g_1 = a_2n/[a_1(a_1 + a_2)]$, and for the second species $g_2 = a_1n/[a_2(a_1 + a_2)]$, [$g_1$ and g_2 are the *per capita* fitness advantages of Müllerian mimicry once it has gone to completion], whence follows the proportion, $g_1:g_2 = a_2^2:a_1^2$."

[The quote of the mathematical formula and description is from the footnote in F. Müller (1879). Ituna and Thyridia; a remarkable case of mimicry in butterflies. *Transactions of the Entomological Society of London*, 1879, xx-xxix (translated by R. Meldola from the original German article in *Kosmos*, May 1879, p. 100).]

[**Note:** The Editor thanks Dr. Jim Mallet for permission to republish the article and photograph of Fritz Müller (Galton Laboratory, Department of Biology University College London, 4 Stephenson Way, London NW1 2HE; E-mail: j.mallet@ucl.ac.uk). Dr. Mallet's web site is http://abacus.gene.ucl.ac.uk/jim/. Dr. Mallet also thanked Dr. Gerardo Lamas for supplying this information for his web site.]

(Hank can you do the math?)

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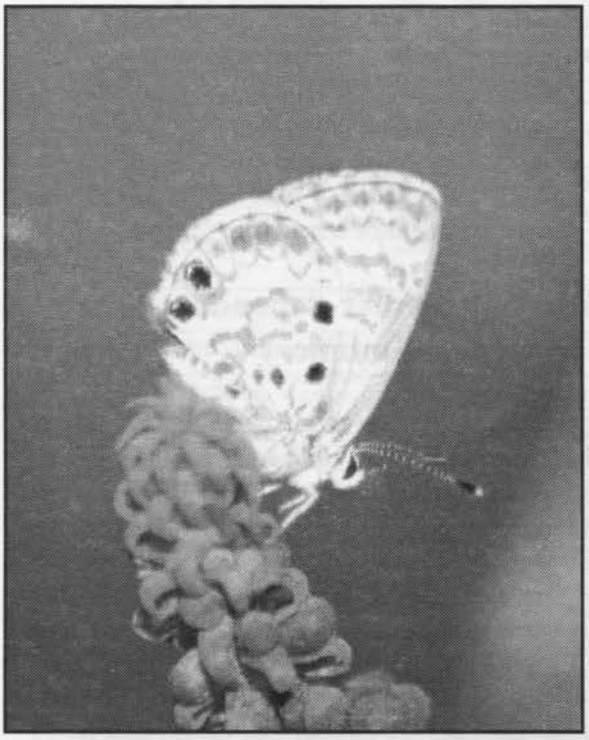
MEMBERS: Please check your address label. If it is 2002 or less you owe dues for 2003.

MIAMI BLUE (*CYCLARGUS THOMASI BETHUNEBAKERI*): FLORIDA ENDANGERED SPECIES



***C. thomasi bethunebakeri* - photograph by David Fine.**

The following is a paraphrased synopsis from 3 reports on the Miami Blue butterfly of Florida that the Editor of the SLS News recently received. The Miami Blue *(Cyclargus thomasi bethunebakeri)* has been placed on the endangered species list of Florida on an emergency basis effective as of December 10, 2002, by Mr. Kenneth Haddad of the Florida Fish and Wildlife Conservation Commission. Prior to this date, the species had no special protection under Florida's conservation laws. Presently, there is only a single colony of this small bright blue butterfly, the Miami Blue, know to exist on the Florida Keys at Bahia Honda State Park on Bahia Honda Key in Monroe County, Florida. Less than 50 adults have been recorded. Mr. Haddad states: "It (*the Miami Blue*) is in imminent danger of extinction. Emergency listing as an endangered species is a crucial step in the attempt to save this unique Florida treasure." The petition to place the Miami Blue on the Florida endangered species list was filed by the North American Butterfly Association (NABA).

***C. thomasi bethunebakeri* - photograph by David Fine.**

Reasons given for the decline in the numbers of this small blue butterfly are not definitely known but assumed to be loss of habitat, fire ant predation, and the widespread use of chemicals to control mosquitoes. Studies of this butterfly are ongoing for the purpose of learning more about its life cycle in conjunction with the possibility of reintroducing Miami Blues into their former habitats if deemed appropriate. The emergency listing imposes a complete prohibition on killing the butterfly and prohibits other activities including its pursuit, molestation, harm, harassment, capture, possession or sale without a permit. Let collectors be warned that it is now a third-degree felony to collect this butterfly or to harm it in anyway and could bring a five-year prison sentence and $5,000 fine if convicted.

[**Editor's Notes**: Mr. Randy Emmitt is acknowledged and thanked for the use of his photograph of C. t. bethunebakeri. Please see Color Insert A for more photographs by David Fine of *C. t. bethunebakeri* and its life cycle and a close relative *C. ammon.* (Confirmation of the identity of the specimens stated to be *C. ammon* is yet to be determined.) As can be observed the phenotypic differences between *C. t. bethunebakeri* and *C. ammon* are slight with the exception of size.

There is some confusion concerning the proper scientific name of the Miami Blue. It is my understanding that the correct scientific name is *Cyclargus thomasi bethunebakeri* and that the Miami Blue is not in the genus *Hemiargus* as has been published in some news reports. John Calhoun tells me that Johnson and Balint (1995) placed *thomasi* and *ammon* in *Cyclargus* as originally proposed by Nabokov (1945).]

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THE MOTH FAUNA OF THE HIGHLANDS AREA AND POSSIBLE IMPACTS FROM 1999 BTK SPRAYING

BY

JAMES K. ADAMS

I've had several people request that I make available at least some of the information from a U.S. Forest Service project with which I was involved from 1999-2001. What follows is a summary of the final report. A complete macromoth species list is available on the web site at: http://www.southernlepsoc.org/ For more information on individual species data, you can contact me at jadams@em.daltonstate.edu

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In 1999, certain areas around Highlands, Macon Co., North Carolina were aerially sprayed in April and May in an attempt to eradicate possible Gypsy Moth (*Lymantria dispar*) infestations. The agent being used to kill Gypsy Moths was *Bacillus thuringiensis* (Btk), which is applied during the time the larval stages of the moth are active (April and May). From the months of May (during spraying) through July in 1999, and again during the entire 2000 and 2001 lep seasons, the macromoth fauna of the Highlands area was intensely sampled in an attempt to ascertain any noticeable effects on non-target (non-Gypsy Moth) Lepidoptera (larval stages) due to the spraying of Btk. Obviously, only a certain percentage of Btk-susceptible species would be exposed to Btk during the April-May spraying time.

The few studies which have been done indicating the intensity and/or extent of the effects of Btk-spraying on non-target lepidopteran faunas in natural field situations (*e.g.*, Wagner *et al.*, 1996) show that effects on macromoth larval faunas can be measurable, as can recovery over the next few years. However, these studies also suggest that it would be "impossible to document a treatment effect for the uncommon taxa," and additionally that "for imperiled taxa with low population densities, data on susceptibility and inferences about vulnerability to [Btk] applications are likely only to come from laboratory studies."

The most appropriate design of a project to determine spraying effects on the macromoth fauna would be to sample the same areas before and after the spraying. Additionally, in order to document occurrence of local, uncommon or rare species, sampling should be done several years before spraying. Unfortunately, there was no recent regular sampling done in the Highlands area before spraying was begun, and so no original database from which to work. This ultimately made it extremely difficult, if not nearly impossible, to elucidate specific effects of Btk-spraying on the non-target moth fauna.

The sampling in 1999 included sampling on sites that were sprayed on the Highlands Quad -- Slick Rock to the east of Highlands, Satulah Mountain (below the summit), and the city of Highlands. Also included was a site that was

not sprayed, on the Scaly Quad -- an area to the west of Little Scaly (being developed; to become the Blue Valley Falls Subdivision). The intent was to compare the numbers and diversity of Macrolepidoptera taken in sprayed *vs.* non-sprayed areas to see if any overall impact trends could be seen. However, the chosen sites were in some ways quite different (*e.g.*, floristically) and so direct comparisons were impossible -- any small effects would be indistinguishable from simple background variation in the fauna of the areas sampled. Only large effects on common and widespread groups would be potentially detectable, but even large differences could still be unrelated to the spraying.

Adults of one group of noctuids, the subfamily Herminiinae, whose larvae are litter-feeders, may be abundant in samples across habitats. Many of these species in this subfamily are in the larval stages in May when the spraying was being conducted, and have been shown to be susceptible to Btk in the lab. The persistence of Btk in the field is apparently somewhat variable, though apparently ≤10 days is usual on exposed foliage. However, the bacterium could be much more persistent in the litter, and therefore the herminiines may be more at risk than others.

Of primary interest for the 2000-2001 sampling, besides follow up on the herminiines, was to determine possible impacts on groups whose larvae are known to be susceptible and exposed in April/May, but whose adults had not been sampled, such as the xylenine noctuids and a number of other early/late season flying noctuids and geometrids. One early spring flying noctuid (*Feralia jocosa*) was found to be extremely common at (unsprayed) Little Scaly in early March, and non-existent at the other sites, even though appropriate food plants are scattered throughout the area. This does suggest the possibility that this species may have been impacted by the spraying.

Adult sampling involved using Leroy Koehn DC powered, 15V blacklight traps at the above indicated sites, and a 1000W mercury vapor light in Highlands (at the Highlands Biological Station -- HBS). All macrolepidopteran (and a few selected microlepidopteran) species taken in the traps were tallied and identified to the maximum extent possible. During each visit, one trap was placed at Satulah each night, and typically I alternated one trap one night and two traps the other at both Slick Rock and Little Scaly. During each trip, several well-lit buildings in Highlands proper were visited to yet further increase the diversity sampled.

Overall numbers and diversity

On our web site, you will find lists of the entire butterfly and macromoth fauna known (to me) from the Highlands, Macon Co., North Carolina area (plus a couple of other families that are easy to identify) from various sources. The total number of species in the lists is 783 (758 macros). There are undoubtedly more butterflies and skippers to be found in the area, as most of the sampling for butterflies that has been done involves casual observation around the HBS.

The total number of lepidopteran species collected and identified in 2001 is 607 (587 macros), an increase of 63 over the total (544) from 2000. The most diverse site sampled in 2001 (and 2000) was Slick Rock, one of the sites sprayed in 1999, with a total of 391 species of identified Lepidoptera recorded (Table 1). Little Scaly had a total of 350 species recorded in 2001, almost precisely the same as 2000. Interestingly, the city of Highlands which was lowest in diversity of the four sites in 2000 (272), was second highest in 2001, with 373 species recorded. This is likely an artifact of more diligent attempts at sampling around the lights in the city proper. The sprayed area around Slick Rock is clearly the richest area, likely due to the fact that this area remains the least disturbed otherwise of the sampled sites (and also indicating minimal persistence of Btk). Satulah had a total of 275 species recorded, lower than the other sites (as was the case in 2000). The habitat on Satulah is distinctly different from the other sites, and the lower diversity may indicate intrinsic differences in habitat. However, Satulah also has certain unique Lepidoptera components, indicating that it remains a worthwhile as a site to sample.

Table 1. DIVERSITY OF MOTH FAUNAS FROM SAMPLED AREAS:
[Total number of species from all sampling periods; unique species in "( )"]

1999

	Slick Rock	Satulah Mtn.	Little Scaly
Saturniidae:	4 (0)	3 (0)	3 (0)
Sphingidae:	7 (4)	3 (1)	3 (1)
Notodontidae:	11 (2)	6 (0)	12 (3)
Arctiidae:	8 (1)	5 (0)	12 (4)
Lymantriidae:	1 (0)	0 (0)	4 (3)
Noctuidae:	108 (19)	103 (16)	126 (26)
Geometridae:	57 (7)	50 (2)	68 (12)
Limacodidae:	5 (0)	5 (1)	6 (2)
*TOTAL	205 (32)	179 (21)	240 (51)

*(includes Apatelodidae, Lasiocampidae, Thyatiridae, Drepanidae, Zygaenidae, and Sesiidae)

Including the butterflies and skippers, total species recorded (May - July): **379**

2000

	Slick Rock	Satulah Mtn.	Little Scaly	HBS
Saturniidae:	6 (3)	2 (0)	2 (0)	3 (0)
Sphingidae:	6 (2)	3 (0)	6 (1)	4 (1)
Notodontidae:	13 (2)	5 (0)	11 (1)	12 (1)
Arctiidae:	19 (7)	8 (0)	15 (1)	5 (0)
Lymantriidae:	4 (0)	2 (0)	5 (1)	2 (0)
Noctuidae:	207 (25)	180 (18)	201 (17)	179 (23)
Geometridae:	88 (9)	80 (8)	95 (16)	61 (5)
Limacodidae:	6 (0)	4 (0)	7 (1)	4 (0)
*TOTAL	357 (49)	289 (27)	352 (39)	272 (30)

*(includes Apatelodidae, Lasiocampidae, Thyatiridae, Drepanidae, Epiplemidae, Zygaenidae, Attevidae, and Sesiidae)

Including the butterflies and skippers, total species recorded (March - October): **544**

2001

	Slick Rock	Satulah Mtn.	Little Scaly	HBS
Saturniidae:	6 (1)	1 (0)	2 (0)	4 (0)
Sphingidae:	10 (3)	3 (0)	6 (1)	9 (3)
Notodontidae:	18 (5)	10 (0)	14 (0)	15 (5)
Arctiidae:	12 (1)	5 (0)	14 (2)	9 (1)
Lymantriidae:	6 (1)	4 (0)	6 (0)	5 (0)
Noctuidae:	211 (33)	174 (17)	196 (15)	234 (52)
Geometridae:	106 (18)	69 (2)	94 (11)	85 (10)
Limacodidae:	8 (0)	6 (1)	5 (1)	6 (1)
*TOTAL	391 (68)	275 (19)	350 (32)	373 (74)

*(includes Apatelodidae, Lasiocampidae, Thyatiridae, Drepanidae, Epiplemidae, Zygaenidae, Attevidae and Sesiidae; also included in the total are individuals or pairs of species in the following families that were not collected in 1999 or 2000 -- Mimallonidae, Megalopygidae, Thyrididae, Urodidae, and Hepialidae [6 species total])

Including the butterflies and skippers, total species recorded (March - November): **607**

During the months of August and September 2001 there was a significant reduction in overall moth numbers and diversity in the Highlands area and in much of the southeast (Bo Sullivan, Brian Scholtens, pers. comm.). The lower numbers/diversity was quite unexpected as summer 2001 was wetter and closer to "normal" than the previous two summers, which usually means increased food plant availability and moth numbers. The reduction in diversity/numbers was most noticeable the second night of trapping in Sept. 2001 when only 47 specimens representing 19 species were taken at Slick Rock, and 5 specimens of 4 species were taken at Little Scaly.

Herminiinae

Many species in this group of noctuids have Btk-sensitive, litter-feeding larvae that would have been exposed to Btk spraying in 1999. As might have been expected, the group did seem to show some effects, with both numbers and diversity apparently affected during June and July in 1999 (post-spraying) at the sprayed sites. In the year 2000, numbers of herminiines still seemed to be depressed on the sprayed sites, though the disparity in numbers between sprayed *vs.* non-sprayed areas decreased (recovery?). Table 2 summarizes and compares the sampling results for 1999 - 2001. A couple of comments are necessary about the data in Table 2. You will notice that the total herminiine catch per sample does not equal the *"Idia", "Polypogon"* (formerly *Zanclognatha*), and *"Renia, etc."* numbers combined. The reason is that no *Idia* were collected in May, no *Renia/Chytolita/Bleptina* were collected in September or October, and no *Polypogon* were collected in October. As such, the respective months in which there were no collections for specific groups were omitted from the average numbers per trap for those groups.

Table 2. SUMMARY OF TRAPPING RESULTS FOR THE HERMINIINE NOCTUIDS FROM 1999 THROUGH 2001.

[All numbers listed in the top part of the table represent numbers per sample.]

		Slick Rock	Satulah Mtn.	Little Scaly
Idea	(2000)	18.5	20.4	19.4
	(2001)	9.7	12.3	20.1
Polyodon	(2000)	3.3	5.3	18.2
	(2001)	6.4	18.1	25.1
Renia, etc.	(2000)	3.0	2.4	5.3
	(2001)	6.3	4.0	7.3
Total	(2000)	22.8	26.2	36.6
	(2001)	17.6	27.8	42.4
Total 1999 (May-July)		19.0	16.8	52.3
Total 2000 (May-July)		28.3	31.8	55.7
Total 2001 (May-July)		28.2	47.2	71.9
Total 2000 (Aug.-Oct.)		22.0	20.1	19.4
Total 2001 (Aug.-Oct.)		6.9	4.6	9.1
Total Numbers (2000)		364 (16 samples)	419 (16 samples)	695 (19 samples)
	(2001)	317 (18 samples)	306 (11 samples)	720 (17 samples)
Total Diversity (1999)		22	17	24
	(2000)	22	21	25
	(2001)	22	17	24

When examining the numbers from the different years the number of herminiines collected at Little Scaly remained higher than at the sprayed sites. You will also notice that the diversity remained slightly higher at Little Scaly during the entire three year period. Another noticeable set of trends were the changes in abundance of different groups of herminiines from 2000 to 2001. *Polypogon* (*Zanclognatha*) numbers, which were suggested to have been most

affected by Btk-spraying in previous reports, increased two-fold at Slick Rock and over three-fold at Satulah (both sprayed sites), while also increasing in number by a modest amount at Little Scaly. Conversely, *Idia* numbers, which have been suggested to be less affected by Btk-spraying declined by nearly half at both sprayed sites in 2001, while remaining virtually unchanged at Little Scaly.

Though the numbers in Table 2 do seem to indicate an impact of Btk spraying on herminiines, and even potential recovery over the next couple of years, numbers from separate years of collecting are not directly comparable, for several reasons. The first is that the numbers from 1999 cover only four sampling periods compared to eight sampling periods in 2000 spaced similarly to those in 1999 (three weeks apart), and six periods in 2001 spaced four weeks apart. So, the total numbers per trap for the three years do not represent the same time periods. In an attempt to make the years' numbers more comparable, numbers for the months of May - July (the months covered by sampling in 1999) were also calculated separately for 2000 and 2001 (Table 2). It should be understood that even these numbers are only marginally comparable, as there will be year-to-year or even night-to-night variability in conditions and therefore in individual species emergence and abundance at any time during the year. For the months of May through July for the three year period, you will note that there is basically an increase in numbers for all three sites over the three year period. Herminiine diversity and numbers declined sharply during the fall months of 2001 (as indicated above for all moths; see Table 2, Total 2001 (Aug.- Oct.).

Additional factors also make direct comparison of numbers impossible. Trap placement, for instance, was not always precisely in the same place, partly because sampling for greater diversity of the entire macromoth fauna was one of the primary goals of the project. Small changes in placement (nearer/farther away from litter sources, for example) would influence the number of herminiines taken. There is another factor, however, that could have a major impact on number/diversity differences. The Little Scaly (unsprayed) site, as mentioned above, is being developed; clearing for home sites was begun in 1999, and continued into 2000 and 2001. At all times there were a significant number of trees that had been cut down and left in place. As a result, the increase in leaf litter would likely also result in an increase in herminiine numbers.

Other species of interest

Catocala. The larvae of most Underwings are sensitive to Btk in the lab and would have been feeding at the time of spraying for Gypsy Moths in 1999. However, there was little indication of any major effect on this group, with the most diverse site in 1999 being the sprayed Slick Rock. In 2001, the number of species recorded from each site was: 21 from Slick Rock, 14 from Satulah, 17 from Little Scaly, and 24 from Highlands. There was an impressive outbreak of *Catocala* in terms of both numbers and diversity in July 2001, most noticeable in the city of Highlands. As for many other groups of moths in 2001, the *Catocala* exhibited significant decline in numbers in August and September, though some species continued flying into October (*flebelis, lacrymosa, vidua, ilia*, and *cerogama*) and even one species in November (*vidua*).

Lytrosis/Euchlaena and *Prochoerodes transversata*. These geometrids have larvae that are sensitive to Btk and would likely have been exposed to the Btk spraying in 1999. The final results indicate that all are in good shape at all sites, though *Euchlaena amoenaria* (common in early September in 2000) was absent in 2001. This species could have been affected by whatever caused the significant depression in moth numbers in August and September. It should be mentioned that *Lytrosis permagnaria* was recorded once at Slick Rock in 1999, and not recorded in the following two years. However, this uncommon species has a very narrow flight time (in late May/early June in the Highlands area), so no conclusions about Btk affects can be made.

2000/2001 Target (1999 Sample Gap) Groups. One of the gaps in sampling in 1999 was for the late fall/winter/early spring flying moths, many of whose larvae should have been exposed to the Btk spraying. Two noctuid groups, the Psaphidinae and Xylenini, contain a majority of species that fit this category. In the year 2000 and 2001, all members of the genus *Psaphida* were recorded at least at one of the sprayed sites. However, the *Psaphida* species often go through pupal diapause of more than one year, and so Btk spraying impacts are probably lessened by this. *Feralia jocosa* was a big surprise in 2000, as the records for this species represented a significant southerly range extension. This species may have been impacted by Btk spraying, as it was absent from sprayed sites and the common noctuid

at Little Scaly in March of 2000. In the Xylenini, the *Lithophane* and *Eupsilia* were most abundant (at bait and lights) at HBS in all years. Indeed, October 2001 exhibited a magnificent emergence of xylenines (both diversity and numbers), particularly *Lithophane*, with many species being so abundant at the HBS that they interfered with attempts at collecting other species. The *Pyrrefera* species (*citromba* and *hesperidago*) were recorded in March 2000 only from Little Scaly, and it was suggested that these species also might represent impacted species. However, collections of *P. citromba* from all sites in 2001 suggest that *Pyrrefera* species are either relatively unaffected or recover very quickly from Btk-spraying.

Summary of Potential Btk impacts

The most apparently impacted group from the 1999 spraying is the Herminiinae in the family Noctuidae. What appears to have been the most strongly impacted genus, in terms of numbers, is *Polypogon* (*Zanclognatha*). Numbers per sample of this genus at the sprayed Slick Rock and Satulah were 5½ and 3½ times less respectively than at Little Scaly in 2000. Numbers of *Polypogon* in 2001 seemed to improve at all sites, doubling at Slick Rock, tripling at Satulah, and increasing modestly even at the non-sprayed Little Scaly site. Numbers of *Renia* also improved at all sites in 2001, with twice or nearly twice the numbers recorded at the two sprayed sites. The numbers for May through July from 1999 through 2001 show that numbers improved (or remained unchanged) at every site during this time span each year.

So what do all the numbers mean? It does appear as though the most diverse site in all years, as well as the site highest in abundance of herminiines, is the unsprayed Little Scaly. Does this mean that the Btk-spraying did indeed impact the herminiines? As mentioned previously, the Little Scaly area is being developed for future honesties. As such, the Little Scaly area had an abundance of extra leaf litter (from cut down trees) which would could support a larger number of herminiines, as seen in the data. Were herminiines impacted by the Btk-spraying in the Highlands area? Probably. Do the results of this three year project unequivocally indicate this? Without pre-spray sampling from all areas, we cannot say more than there is a **correlation** between abundance/diversity and Btk-spraying. **Causation** is another matter completely.

Reference

Wagner, D. L., J. W. Peacock, J. L. Carter, and S. E. Talley. 1996. Field assessment of *Bacillus thuringiensis* on nontarget Lepidoptera. *Environmental Entomology*, 25(2): 1444-1454.

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A COMMENT ON THE NEW OPLER & WARREN CHECK LIST
BY
RON GATRELLE

While this list took a lot of work and there is some good updated information in it, overall I find the list lagging quite a bit behind the quality of the Miller Brown list. A recurring error in the Opler / Warren list and probably other lists that I have not seen (*i.e.*, ATL) is the way homonyms are dealt with. For example, the third entry in the Opler & Warren list is *P. polybius*. This is grossly incorrect. It is used due to the error of sinking the long used *Papilio palemon* Cramer, 1777 as a homonym of *Papilio palaemon* Pallas, 1771.

First, some background for the newer lepsters and old lepsters who aren't familiar with the ICZN (International Code of Zoological Nomenclature). Homonymy is when two scientific names are the same in spelling at the same rank combinations. When scientific names began to first be used (1758 is the "official" date) it was customary to use the genus name *Papilio* for just about everything - Swallowtails to Skippers. Well, this eventually became a problem as many very different species came to have the same exact species and genus names - like *Papilio palemon*. Using just the name, no one could know exactly which taxon was being referred to.

When the Code came into creation rules were put in place to sink the junior homonyms and not use them. This is

why in the O & W list they sink the skipper name *Papilio palemon* and use the later proposed name (*polybius*) for this same skipper, because the Cramer *palemon* (introduced in 1777) is junior in time to the Pallas *palaemon* (introduced in 1771).

Now, according to the Code names with one letter differences are not considered the same unless in certain cases. Here, palemon *vs.* pal_a_emon are likely the same as the Code specifically mentions the _ae_ *vs.* _e_ as a same latinized spelling. I say likely, as at times these differences are due to different root meaning in the basic Latin term, and in those cases they are not considered the "same". But, for us here, suffice to say that these are spelled the "same" in the Code's definition.

The BIG problem is that Articles 57.8.1 and 23.9.5 make exceptions that negate the normal rules of homonymy (sinking junior names). 23.9.5 is the rule that is commonly violated in modern check lists. Species names that were introduced as homonyms before 1899 BUT after 1899 have not been used in the same genus are not to be changed from their prevailing usage except by a ruling of the ICZN Commissioners. And I can assure you the Commissioners would not overturn the prevailing usage in such cases unless there was some really good reason - which I can't even think of what one might be.

In other words, if since 1899 Cramer's *palemon* _and_ Pallas's *palaemon* have NOT been used in the same genus then Cramer's name is the CORRECT one for this insect that is to be used and not its synonym *polybius* Fabricius, 1793.

Pallas's *palaemon* is the skipper we know today as *Carterocephalus palaemon*.

1) The genus *Carterocephalus* was established in 1852. The type species of that genus is none other species than our current *palaemon*!!!

2) The genus *Phocides* was established in 1819. The type species of this genus is none other than our current *palemon*!!!

Thus, since 1875 (24 years before the Code's cut off date of 1899) when Scudder designated the respective type species of these two genera neither *palaemon* or *palemon* have been used in the same genus. (And surely not in "Papilio" long before that!!!) Thus, the Opler & Warren use of *polybius* is 100% bogus as it is in violation of the ICZN Code. So are _all_ other similar usages throughout that list. Now, they surely did this based on the sloppy advise of some supposed Code experts.

People who are not fluent in the ICZN Code should not write check lists or advise those who are. There is a note in the Miller / Brown list under *palemon* that it is, "NOT homonymus with *Papilio palaemon* Pallas, 1771..." Someone should have taken note of that.

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DEFINITIONS: Frenulum - an anatomical structure in moths that consists of a single spine in males or multiple spines in most females that project anteriorly, toward the front, from the base of the hind wing. Also described as a stiff bristle or group of bristles extending forward from the hind wing of some moths and interlocking with a hooklike structure on the front wing, linking the wings together in flight. The ***frenulum*** is held by the ***retinaculum*** which is a membranous hook or series of bristles on the underside of the forewing to join the forewing to the hind wing so the wings can work in unison during flight. These structures are absent in some primitive microlepidoptera that have a ***jugum***. A ***jugum*** (noun, plural is ***juga*** or ***jugums***) is an anatomical ridge or groove connecting two structures. In a moth, the ***jugum*** holds the forewing and hind wing together in flight by overlapping the hind wing near the base.

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LIFE HISTORY OF *MEGATHYMUS YUCCAE* ON *YUCCA ELEPHANTIPES* IN SOUTH FLORIDA

BY
ROBERT BEIRIGER

Abstract

Megathymus yuccae adults emerge from late January through March in South Florida. Eggs are laid in February and March. On *Yucca elephantipes*, larvae leaf feed for 4-7 days then bore into the terminal bud of young or small shoots. Nests are started about 1 month later and are enlarged until they produce a silken tube that is approximately 5 cm (2 inches) in length and a burrow that is between 43 to 55 cm (17-22 inches) long. In October, the nest is enlarged from a tube into a cone. This shape probably allows the adult to emerge with a minimum of problems. Larvae pupate in the burrow during late December to early January.

Introduction

Megathymus yuccae is a large bodied skipper, which has brownish-black wings with yellow and white spots (Fig. 1, Please See Color Insert A). The reported hosts described by Scott (1986) and Howe (1975) include two species of Yucca in Florida, *Yucca filamentosa* or *smalliana* (Bear Grass Yucca or Adam's Needle) and *Yucca aloifolia* (Spanish Bayonet). There is a third species of Yucca, *Yucca elephantipes* (Soft Spine or Spineless Yucca), that is sold as a house and yard plant in Florida which has not been listed as a host. Spineless Yucca was introduced into Florida as an alternative to Spanish Bayonet (Gilman and Watson, 1993). Spineless Yucca lacks the hard spines on the terminal of the leaf, has a longer, wider leaf, grows 10-15 feet tall and has stronger, wider stems so it does not lodge as easily, and generally does not form as dense clumps as does Spanish Bayonet.

While looking for nests of *Megathymus yuccae*, in Highlands County Florida on naturalized *Yucca aloifolia* (Spanish Bayonet) on January 31, 2002, I found four empty nests and one nest with a pupa. The pupa was bought back to Palm Beach County where it emerged the next day. This emergence in January is much earlier than is listed in most reference books. Only Howe's (1975) report of "...one flight from late January to early June, depending on local..." is even close to what happens in South Florida. Others, like Kimble (1965), list records from Central and North Florida from March to May while Scott (1986) lists "...one flight mostly March through April...". Even though we are in the extreme southern edge of *Megathymus yuccae's* range, their emergence in South Florida was unexpectedly early. This research was an attempt to find out if *Megathymus yuccae* would survive on *Yucca elephantipes* and to determine when their flight period is in South Florida.

Results

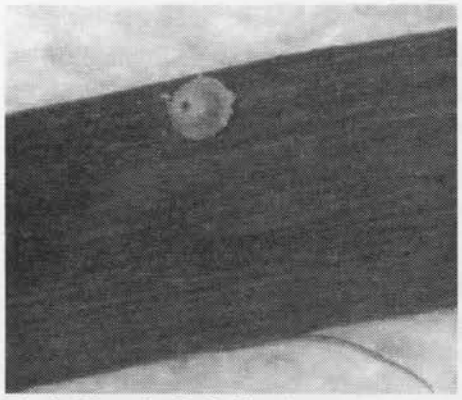

Fig. 2 (Photo by R. Beiriger)

On February 22, 2002, 7 eggs were collected in Highland County, Florida, on *Yucca aloifolia* and placed on *Yucca elephantipes* growing in my yard in Palm Beach County, Florida. *Megathymus* eggs are light bluish in color with a dark spot in the center, flattened on the bottom, and widest at the base (Fig. 2). Eggs were laid on the upper-side of the leaf tip on some leaves, near the center of the upper-side of the leaf on other leaves, while a few eggs were laid on the center of the leaf but on the under-side.

Since I had several plants of *Yucca elephantipes* in my yard, the eggs were spread out among the plants. Five eggs were placed on large, healthy plants that were between 5 to 10 feet tall while the remaining two eggs were placed on small, weak offshoots of a large plant, since all of the larger, healthy plants already had eggs on them. Only three of the larvae survived to bore into the yucca stalk and interestingly they were all on the smallest plant shoots. Larvae also have the ability to move

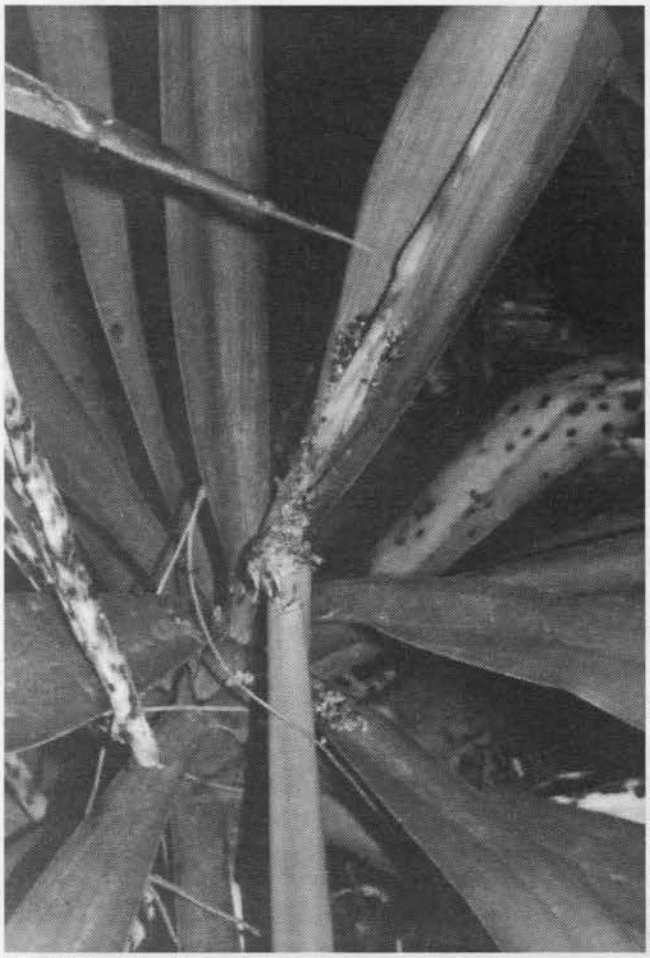

Fig. 3 (Photo by R. Beiriger)

some distance in search of an appropriate plant or shoot. One larva moved over five feet from a large, healthy plant onto a small offshoot of the main plant where it survived and pupated. All larvae placed on the largest plants failed to bore into the terminal shoot and subsequently died.

Megathymus yuccae 1st and 2nd instar larvae have been reported (Scott 1986) to feed on leaves and sometimes construct a silken nest between leaves or may start feeding on a single leaf of a large leafed species or tie several leaves together on a narrow leafed species (Howe, 1975). Howe also states that young larvae may also enter the terminal growth area without leaf feeding and that feeding habits vary with the food plant. My observations are closer to Howe's than to Scott's. First instar larvae of *Megathymus yuccae* when feeding on *Yucca elephantipes* in South Florida feed on the leaves for only 4-7 days before starting to bore into the base of the terminal bud. This is probably the best place to bore in the plant because this location contains the softest, youngest plant material and also contains the growing point of the plant which has high protein levels.

During the initial boring process, the area around the terminal bud was quite messy (Fig. 3). Early instar larvae did not immediately construct a feeding tube but crawled to the entry hole and deposited the fecal pellet outside. These fecal pellets from the young larvae were quite sticky and were mixed with exuding plant sap from the plant. Within a couple weeks, silk threads appeared around the entry hole and some pellets were attached along with various plant materials to form a crude nest (Fig. 4). As the larvae continued to feed, the plant stopped producing/exuding sap and the larvae produced frass pellets that were drier and not as sticky. By early July, a long silken tub had been formed and all frass was either deposited at the end of the tube or was discarded off the plant (Fig. 5). The nests were continually expanded throughout the summer.

By mid October, the silken tube had been enlarged into a wide flared out cone (Fig. 6, Please See Color Insert A). The nests were considerably different from the nest observed on Spanish Bayonet (Fig. 7, Please See Color Insert A) in the wild. The finished nest on Spanish Bayonet was considerably longer and narrower than the nest on Spineless Yucca. Both nests had an opening about 1.0 cm long at the top. It is assumed that this opening helps the adult escape from the burrow and nest. No new frass was produced during this time and

Fig. 4 (Photo by R. Beiriger)

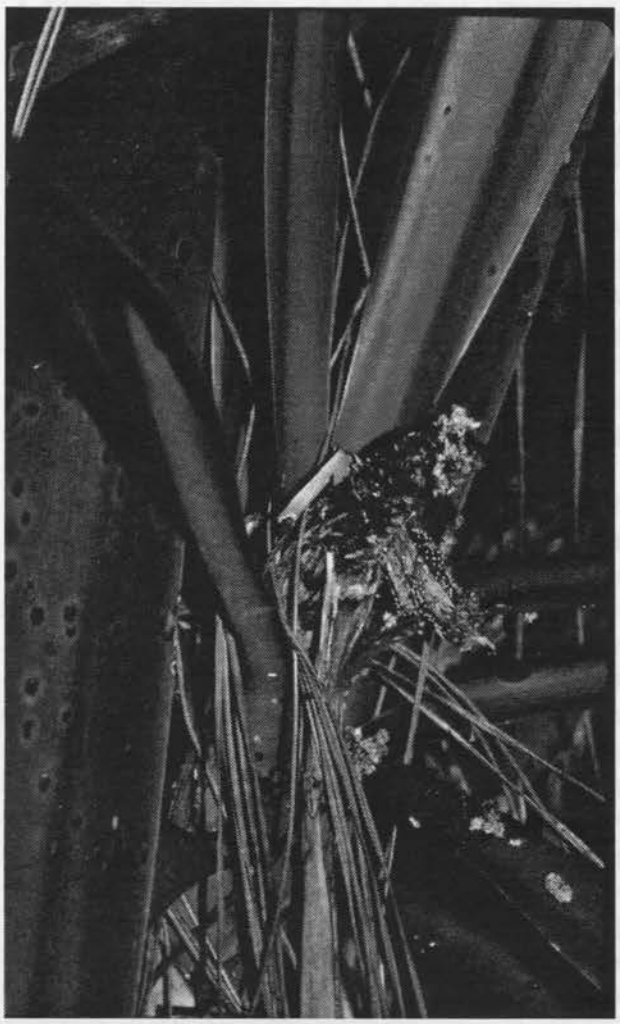

Fig. 5 (Photo by R. Beiriger)

after about 4 weeks one burrow was opened and a large larva was seen inside about 7-8 cm from the top end of the burrow. This larva was removed from the burrow and photographed (Fig. 8). The larva and burrow were clothed from top to bottom with a fine white powder sometimes referred to as "cocaina". Some of this material was also expelled through the slit in the top of the nest. In the emergence cages quite a large pile of "cocaina" would be evident on the top of the nest and on leaves around the nest. In field situations, this "cocaina" is probably blown away by the wind.

In mid December, the Spineless Yucca shoots with the larvae were removed from the main plants and placed inside an emergence cage. Two adults emerged on January 22 and one emerged February 3. After the adults emerged, the yucca shoots were split to determine the total burrow length. The total borrow length was between 43-55 cm long and 1 to 1.5 cm wide.

Conclusions

Megathymus yuccae adults emerge in late January and into February in South Florida. Emergence during the Winter/Spring of 2003 was slightly later than the emergence in 2002. The Winter/Spring of 2002 was much warmer than the Winter/Spring of 2003 and this could have contributed to the early emergence in that year.

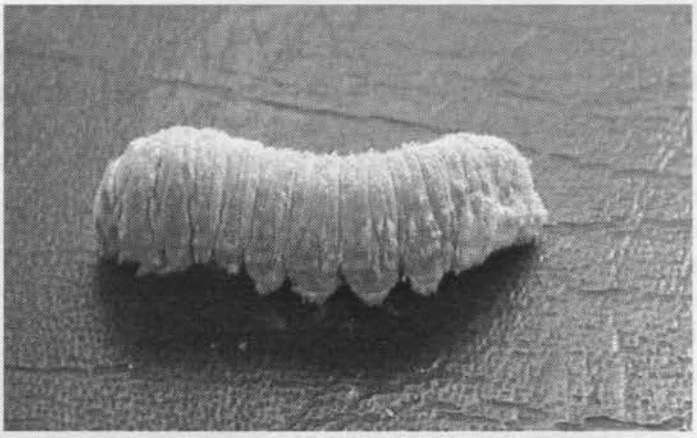

Fig. 8 (Photo by R. Beiriger)

All three species of Yucca are adequate hosts for *Megathymus yuccae* in Florida. I have yet to find larvae or nests of *Megathymus yuccae* on *Yucca elephantipes* in the "wild". Whether they will oviposit on this species and whether *Yucca elephantipes* is a better host for *Megathymus yuccae* larvae than either *Yucca aloifolia* or *Yucca filamentosa* has yet to be determined.

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C. t. bethunebakeri (Photo by D. Fine)

C. t. bethunebakeri, egg (Photo by D. Fine)

C. t. bethunebakeri larva (Photo by D. Fine)

C. t. bethunebakeri, ♀ (Photo by D. Fine)

C. t. bethunebakeri, ♀ (Photo by D. Fine)

C. ammon, ♂ (Photo by D. Fine)

C. ammon, ♂ (D. Fine)

C. t. bethunebakeri, ♂ (D. Fine)

C. ammon, ♂ (D. Fine)

C. t. bethunebakeri, ♂ (D. Fine)

Fig. 1: *M. yuccae* (Photo by R. Beiriger)

Fig. 6: *M. yuccae* nest on Spineless Yucca (Photo by R. Beiriger)

Fig. 7: *M. yuccae* nest on Spanish Bayonet (Photo by R. Beiriger)

JOHN ABBOT AWARD NOMINATIONS

It is time once again to nominate individuals for the John Abbot Award. Just to remind the membership, John Abbot (1751-1840) was a naturalist painter well known and well respected in his time. He lived most of his life in Virginia and Georgia collecting and painting unknown species of insects for his clients in Britain, continental Europe, and America. His watercolor studies of the fauna and flora became an indispensable influence to natural history artists and are now part of the Natural History Museum in London.

Each year The Southern Lepidopterists' Society presents to an individual (does not have to be a member of the Society) the John Abbot Award for his/her contributions to the understanding of lepidoptera in the southern region. Thus, I am asking the membership for nominations for this award. Please print the name of the individual to be nominated on the line below and please give a short (2-3 sentences) explanation of what this individual has contributed to our understanding of the lepidoptera in our region. Please put this form in an envelope and send to me by June 1st. Thank you.

NAME OF NOMINEE (PRINT)_____

ACCOMPLISHMENTS_____

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YOUR NAME (OPTIONAL)_____

Send to : The Editor
J. Barry Lombardini
3507 41st Street
Lubbock, Texas 79413

INFORMATION SHARING IN THE LEP. WORLD
BY
DAVE MORGAN

Information has always been one of the key necessities of any work in the field of Lepidoptera. Even the most casual of amateurs have to carry a field guide containing years worth of observational and research data from hundreds of contributors, contemporary and historical. Among the more seasoned "professionals,"this is even more apparent. For example, consider the new data appearing monthly in the publications of the SLS and the Lepidopterists' Society. These data are critical for keeping up-to-date with the latest findings and research, and it will be important for years to come as reference material. And then there's the bulk of yet undigested information we can access, like the State Coordinators' Reports. Imagine where we would be without it all.

All this is nothing new. I'm sure most of us realize the importance of these published data, as well as the information we get in casual conversations and e-mails. The flow of information has increased dramatically in recent years with a few content-rich sites on the internet and with mailing lists like Leps-L. As good as we have it today, I still often wonder "What can we do to make it even better?"

Well for starters, how about getting more use out of the information we already have? Paper publications are great, but how can we make them better? And how can you know which documents have the information you seek if you haven't already read them? For example: If I needed info on *Synanthedon alleri* in Louisiana, how would I know that the December 2001 SLS Newsletter is the place to look? A partial solution for this particular scenario is the partial list of Newsletter contents on the SLS site, but there are certainly much better solutions than that. Also consider photographs. James Adams and I both have photos of some of the same butterflies on our web sites, but someone who has found an interesting butterfly on my site and wants to see more has to go to the links page, navigate to his site, and then search through his photos after already searching through mine. As an experiment, I came up with a partial (though time-consuming) solution: a visitor who sees an interesting butterfly on my site will see a link below it to the corresponding page on James' site if he also has photos of that particular species. Of course we can't expect each site owner to hand-code hundreds of links on each page of his site, but it was worth trying-out as an experiment.

And then there's the idea of stimulating the flow of less-formal information. I think the best example of this has been Leps-L. But haven't we all been frustrated by having to read twelve threads about collecting *vs.* watching just to get to the interesting message someone wrote regarding migration or rearing? I can also remember occasional back-and-forth e-mail conversations I have had, some of which I'm sure would prove interesting to other Lep folks who were able to read them. I think the UFO page on the SLS site counts as a small example of "stimulated" info exchange, but what else can we do?

These are a few open-ended questions, and it's up to us in the Lep. community to answer them. I think it's also useful to consider these questions as we search for the answers:

What kind of information do I need?
How do I expect to find it?
Who can tell me the answers to my questions?
What kind of information can I share?
How can I share my information?

I don't know the answers. But since I like to work with information, I don't mind doing a little experiment now and then. The aim of this article is to get some of the creative minds thinking about what is possible. Let's hear what you have to say. Go to http://www.southernlepsoc.org and join the discussions. Each one of us has a lot to contribute. And don't be timid about contributing articles to the Newsletter!

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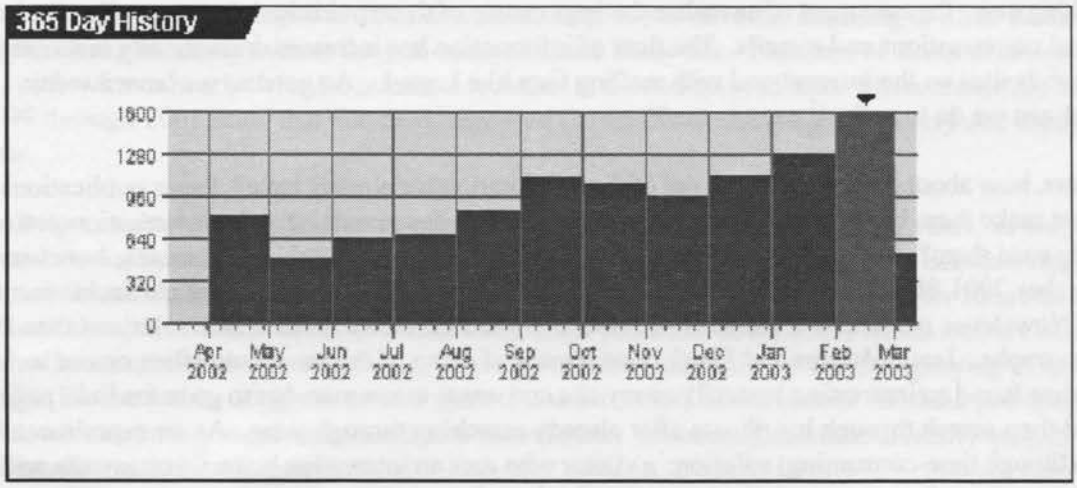
SLS SITE UPDATE
BY
DAVE MORGAN

It's time again for another update to let you know what's going on at the official SLS site. How about a few stats for openers? For the month of February, we served-up 1600 pages of information. The bulk (80%) of this traffic was American, but we also got visitors from Canada, Mexico, Brazil, the Netherlands, Germany, Poland, the UK, China, and New Zealand. The most popular pages were (in this order) the home page, the newsletter page, and the unknowns page.

More interestingly, here is the breakdown (by month) of the pages we served for the 12 months:



In addition, we've added a new feature to the site. The Discussion Forum is a new spot where members (and even casual visitors) can come to talk about various topics of interest in the butterfly/moth world. The forum is split into topics, so you can just read the posts that interest you. And we even have some "members-only" topics where we can join SLS-related discussions in a closed-door environment. Check it out and tell us what you think.

http://www.southernlepsoc.org

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THE CONSERVATION OF FLORIDA BUTTERFLIES
BY
MARC C. MINNO

Peninsular Florida has always been a land of change. Its subtropical location guarantees droughts, hurricanes, freezes, and other environmental extremes that periodically put the state's flora and fauna to the test. During the Pleistocene, intervals of warm, then cold temperatures made Florida sometimes desert-like, sometimes wet and humid. In addition, Florida's coastal and lowland areas were, to various degrees, reclaimed by the sea. Giant ground sloths, long-necked camels, and saber-toothed cats have been gone for many millennia, yet we still have reminders of drier times in the form of gopher tortoises, scrub jays, harvester ants, and giant skipper butterflies that migrated into Florida from xeric areas to the west. With global warming and sea level rise, much of the everglades and the southern peninsula could become salt marshes and mangrove swamps over the next few hundred years.

The recent anthropogenic change that is rapidly transforming the state's natural communities into urban landscapes is much more troubling than climate, however. With around 16 million people living in Florida, the resident

population has been growing steadily, sometimes alarmingly, since the close of World War II. In addition, Florida's visitors and tourists number around 70 million each year.

Planning scenarios estimating future population increase show that coastal areas and regions with abundant lakes will be entirely built out.

What will Florida look like in the next few decades? Planning scenarios estimating future population increase show that coastal areas and regions with abundant lakes will be entirely built out. It doesn't take a computer simulation model to see what's happening. Residents and anyone who has returned to Florida after a few month's absence will notice that day by day, just about everywhere in the state, Florida is becoming a little more urban. Whether it's a house on a quarter-acre lot in the suburbs, a five-acre estate in the country, or a Development of Regional Impact (DRI), the face of this state is changing fast.

Some of the most altered places in Florida include the Tampa/St. Petersburg asphalt jungle, the Miami-Fort Lauderdale-Palm Beach megalopolis, and regional urban hubs like Orlando, Pensacola, and Jacksonville. Even formerly small rural towns are increasing, growing out across the landscape like molds on a culture plate. From the point of view of a tree in the forest, it's bad. For wildlife, it's hard to be optimistic about the future.

On the other hand, Florida is blessed with a tremendous array of natural communities. Our area has attracted naturalists and scientists from throughout the world, because it is a unique and biologically fascinating place. Just twenty years ago, on a sunny afternoon in south Florida, one could wander from mangroves and salt marshes into tropical hammocks and pinelands, and then bound through wet prairies, marshes, and swamps. The plants as well as butterflies within each of these communities can be completely different. In fact, Florida's diversity and number of endemic taxa is exceeded by only a few states.

Deliberate habitat destruction through development is only part of the tremendous change that is occurring. There are other very significant factors that have caused widespread alteration in Florida, which are not as well known. Dewatering of the landscape through drainage ditches and canals, or from the extraction of ground water for agriculture and public supplies is drastically altering Florida's hydrology. Naturalization of exotic species is changing the fundamental makeup of Florida's vegetation. Broad scale spraying of herbicides and pesticides is used in lawn care, agriculture, habitat management, mosquito control, and pest eradication (such as in Mediterranean Fruit Fly infestations). These toxic chemicals are impacting terrestrial and aquatic invertebrate populations, and traveling through nutrient cycles and the food chain to impact the larger animals.

Our native plants and animals are caught in a whirlwind of change. Much like children putting red ants and black ants together in a jar to see which will win, these factors of change have been unleashed upon the land by the unscrupulous and the naïve. Each new house or drainage way, each new exotic plant or animal introduced, can be thought of as a kind of landscape-scale experiment. These "experiments" may take hundreds of years to reach their conclusion, and many native species are likely to be harmed in the process.

Although a large percentage of Florida is publicly owned, many butterflies and other organisms continue to diminish. The causes of declining butterfly populations in Florida are varied, but certainly habitat loss would seem to weigh in greatly. In a recent petition to the US Fish and Wildlife Service requesting that the Miami Blue be listed as Endangered, Jeffrey Glassberg and Mark Salvato cite habitat loss and fragmentation, land management, unethical butterfly collection, and spraying of adulticides to control mosquitoes as the main threats.

The current land management focus on plants and game animals has not protected Florida's rarest butterflies.

What is to be done to protect Florida's butterflies? I believe we need to implement an adaptive management program focused on habitat management for the rarest species. How is this done? The key to adaptive management is to gather data on the abundance, distribution, and ecology of rare butterflies through monitoring and observation. These data can then be used to make changes in the management of habitats that will maintain or bolster butterfly populations.

The current land management focus on plants and game animals has not protected Florida's rarest butterflies. Agencies that control our public lands include the Florida Department of Environmental Protection, Florida Fish and Wildlife Conservation Commission, Florida Division of Forestry, various military reservations, the Water Management Districts, our national parks and wildlife refuges, the US Fish & Wildlife Service, counties and municipalities, as well as nongovernmental organizations that have large private holdings such as the Nature Conservancy and Audubon Society. To protect our butterflies, we need to have all of these agencies involved in developing management plans that take in to account rare butterflies, as well as high profile mammals and birds.

To protect our butterflies we need to have all of these agencies involved in developing management plans that take into account rare butterflies, as well as high profile mammals and birds.

Besides the obvious benefits of butterfly conservation, why manage for butterflies? Simply because we know so much about butterflies compared to other kinds of animals. Like birds, butterflies are relatively easy to identify and monitor with nothing more complicated than a pair of close-focusing binoculars, note pad, and pen. There are numerous field guides that make identifying Florida butterflies as easy as birds. Butterflies are also sensitive to environmental changes. The presence of rare butterflies indicates special conditions in the landscape where other rare organisms may also thrive.

At the present time, neither land managers nor conservation organizations are well equipped to track and manage butterfly populations. Furthermore, legal and bureaucratic restrictions make it very difficult for volunteers to assist in this important work. Furthermore, the legal listing of species that are threatened and endangered has become so political and cumbersome, that the responsible agencies are reluctant to act. As a result, even our most imperiled Florida butterflies have little or no protection.

Ten years ago the Miami Blue was a characteristic butterfly of the tropical hardwood hammocks of the Keys. Nobody guessed it would rapidly decline to a single known colony of a few dozen individuals today. Yet even for this species which is near extinction, it took tremendous effort on the part of members of the North American Butterfly Association over several years to list the Miami Blue.

Fortunately, many land managers are anxious to learn what they can do for butterfly conservation. There is a good amount of public support for and interest in protecting rare butterfly species. Many interpretive programs and natural areas or parks incorporate or focus upon butterflies. A proactive system involving those who are most interested in butterfly conservation might be very effective, especially in these times of rapid change. If a program existed for tracking and managing butterfly populations, and for educating land managers, people could choose to work for butterfly conservation, whether or not legal protection existed.

I believe that it is possible to bring our imperiled butterflies back to former population levels.

Table 1 lists butterfly species of concern in Florida. The list includes species representing a broad range of rarity classes. Of the 170 or so breeding species in Florida, 7 are ranked as critically imperiled, 19 are highly vulnerable, 41 are rare, 32 are indicators of high quality habitat, and 3 have special aesthetic qualities. Most of these 102 butterfly species will require some level of future monitoring in order to assess their status.

Table 2 lists Florida's most imperiled butterflies. The Schaus' Swallowtail and Miami Blue are federally listed species that are already undergoing study for recovery. However, the other 17 butterfly species also require immediate attention. Some such as the Maesites Hairstreak and Zestos Skipper have not been reported in recent years, and the Florida Purplewing, Florida Leafwing, Rockland Grass Skipper, Tropical Buckeye, and Bartram's Hairstreak have declined to just a few colonies.

I believe that it is possible to bring our imperiled butterflies back to former population levels. I recommend this three-step approach.

At the present time, neither land managers nor conservation organizations are well equipped to track and manage butterfly populations.

First, we need to conduct regular surveys for our rarest butterflies and log their colonies into a World Wide Web-based data base. Only through systematic surveys can we get a complete picture of their abundance and distribution. The data base should collect the kind of information compiled by the Florida Natural Areas Inventory, only specifically on these butterflies. As with birds, mammals, and plants, populations of our most vulnerable invertebrate species need to be monitored on a regular basis. Butterflies, because of their familiarity and rarity, are the ideal invertebrates to begin with. This adaptive management approach is used by many agencies that manage natural areas, in order to assess current conditions and make changes to correct problems.

Second, we need to investigate the biology of the most imperiled species. What are their major host plants, habitat requirements, and threats to their continued existence? This knowledge is critical to understanding why our imperiled species have declined, and to developing plans for restoring their populations.

The final step involves active recovery of the butterfly species. This may include captive breeding and release, planting or managing for host plants, or other proven techniques to increase the number and vigor of populations.

The Atala is good example of how a declining butterfly was helped by volunteers and saved from extinction in Florida. This spectacular tropical species was thought to have died out in Florida by the 1970's. After a single colony was rediscovered in Miami, volunteers secretly moved caterpillars to other areas and started new populations. Today the Atala has regained its former range and is doing very well.

The cost of helping our imperiled butterflies to survive is low compared to the dollars spent on some vertebrates such as the Florida Panther, Whooping Crane, and West Indian Manatee. Even modest grants will help fund students, researchers, or facilitators who can organize volunteers. The cost of doing nothing will be the loss of some of our most precious natural heritage.

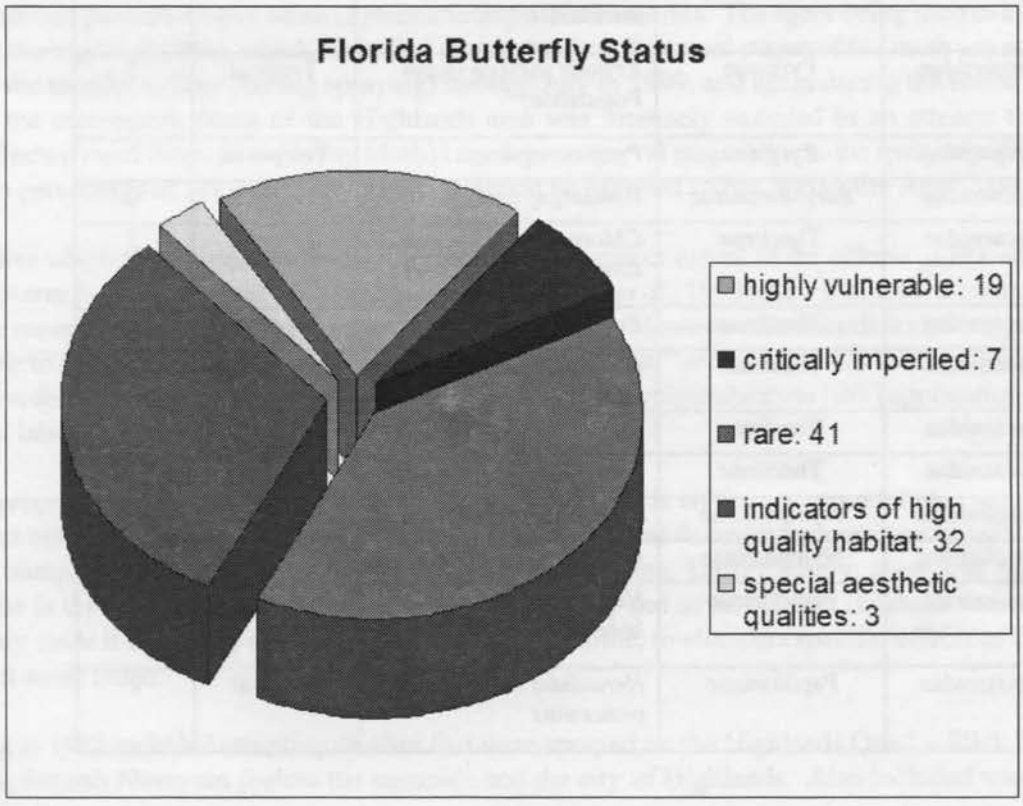

Table 1. Butterflies of concern in Florida:

1 = Critically imperiled (last chance)
2 = Highly vulnerable
3 = Very local and rare in Florida
4 = High quality habitat indicator
5 = Special value species

FAMILY	SUBFAMILY	SPECIES	AFFINITY	RANK
Hesperiidae	Hesperiinae	*Hesperia meskei* (Keys Population)	Tropical	1
Hesperiidae	Pyrginae	*Epargyreus zestos zestos*	Tropical	1
Lycaenidae	Polyommatinae	*Hemiargus thomasi bethunebakeri*	Tropical	1
Lycaenidae	Theclinae	*Chlorostrymon maesites maesites*	Tropical	1
Nymphalidae	Charaxinae	*Anaea troglodyta floridalis*	Tropical	1
Nymphalidae	Nymphalinae	*Eunica tatila tatilista*	Tropical	1
Nymphalidae	Nymphalinae	*Junonia genoveva*	Tropical	1
Hesperiidae	Hesperiinae	*Atrytone arogos arogos*	Temperate	2
Hesperiidae	Hesperiinae	*Atrytonopsis hianna loammi*	Austral	2
Hesperiidae	Hesperiinae	*Euphyes pilatka klotsi*	Tropical	2
Hesperiidae	Pyrginae	*Ephyriades brunneus floridensis*	Tropical	2
Hesperiidae	Pyrginae	*Erynnis zarucco* (Keys Population)	Tropical	2
Hesperiidae	Pyrginae	*Pyrgus communis*	Temperate	2
Lycaenidae	Polyommatinae	*Hemiargus ammon*	Tropical	2
Lycaenidae	Theclinae	*Chlorostrymon simaethis simaethis*	Tropical	2
Lycaenidae	Theclinae	*Eumaeus atala florida*	Tropical	2
Lycaenidae	Theclinae	*Harkenclenus titus mopsus*	Temperate	2
Lycaenidae	Theclinae	*Incisalia irus*	Temperate	2
Lycaenidae	Theclinae	*Strymon acis bartrami*	Tropical	2
Nymphalidae	Nymphalinae	*Anthanassa frisia frisia*	Tropical	2
Nymphalidae	Nymphalinae	*Eunica monima*	Tropical	2
Papilionidae	Papilioninae	*Heraclides andraemon bohotei*	Tropical	2
Papilionidae	Papilioninae	*Heraclides aristodemus ponceanus*	Tropical	2

Pieridae	Coliadinae	*Eurema dina helios*	Tropical	2
Pieridae	Coliadinae	*Eurema nise nise*	Tropical	2
Pieridae	Pierinae	*Appias drusilla neumoegeni*	Tropical	2
Hesperiidae	Hesperiinae	*Amblyscirtes alternata*	Austral	3
Hesperiidae	Hesperiinae	*Amblyscirtes belli*	Temperate	3
Hesperiidae	Hesperiinae	*Amblyscirtes hegon*	Temperate	3
Hesperiidae	Hesperiinae	*Amblyscirtes reversa*	Temperate	3
Hesperiidae	Hesperiinae	*Amblyscirtes vialis*	Temperate	3
Hesperiidae	Hesperiinae	*Poanes aaroni howardi*	Temperate	3
Hesperiidae	Hesperiinae	*Poanes viator zizaniae*	Temperate	3
Hesperiidae	Hesperiinae	*Polites baracoa*	Austral	3
Hesperiidae	Hesperiinae	*Pompeius verna verna*	Temperate	3
Hesperiidae	Pyrginae	*Achalarus lyciades*	Temperate	3
Hesperiidae	Pyrginae	*Autochton cellus*	Temperate	3
Hesperiidae	Pyrginae	*Erynnis baptisiae*	Temperate	3
Hesperiidae	Pyrginae	*Erynnis martialis*	Temperate	3
Hesperiidae	Pyrginae	*Pholisona catullus*	Temperate	3
Lycaenidae	Miletineae	*Fenisceca tarquinius tarquinius*	Temperate	3
Lycaenidae	Polyommatinae	*Celastrina neglecta*	Temperate	3
Lycaenidae	Polyommatinae	*Everes comyntas comyntas*	Temperate	3
Lycaenidae	Theclinae	*Incisalia henrici margaretae*	Austral	3
Lycaenidae	Theclinae	*Incisalia henrici yahwehus*	Temperate	3
Lycaenidae	Theclinae	*Incisalia niphon niphon*	Temperate	3
Lycaenidae	Theclinae	*Mitoura grynea grynea*	Temperate	3
Lycaenidae	Theclinae	*Mitoura grynea sweadneri*	Austral	3
Lycaenidae	Theclinae	*Mitoura hesseli*	Temperate	3
Lycaenidae	Theclinae	*Satyrium calanus calanus*	Austral	3
Lycaenidae	Theclinae	*Satyrium calanus falacer*	Temperate	3
Lycaenidae	Theclinae	*Satyrium kingi*	Temperate	3
Lycaenidae	Theclinae	*Satyrium liparops floridensis*	Austral	3
Lycaenidae	Theclinae	*Satyrium liparops strigosum*	Temperate	3
Lycaenidae	Theclinae	*Strymon martialis*	Tropical	3
Nymphalidae	Nymphalinae	*Chlosyne nycteis*	Temperate	3
Nymphalidae	Nymphalinae	*Nymphalis antiopa antiopa*	Temperate	3
Nymphalidae	Nymphalinae	*Polygonia comma*	Temperate	3

Nymphalidae	Satyrinae	*Enodia portlandia floralae*	Austral	3
Nymphalidae	Satyrinae	*Neonympha helicta dadeensis*	Austral	3
Nymphalidae	Satyrinae	*Satyrodes a. appalachia*	Temperate	3
Papilionidae	Papilioninae	*Pterourus troilus fakahatcheensis*	Austral	3
Pieridae	Anthocharinae	*Paramidea midea annickae*	Temperate	3
Pieridae	Coliadinae	*Aphrissa statira floridensis*	Tropical	3
Pieridae	Coliadinae	*Eurema daira palmira*	Tropical	3
Pieridae	Coliadinae	*Eurema nise nise*	Tropical	3
Pieridae	Coliadinae	*Kricogonia lyside*	Tropical	3
Hesperiidae	Hesperiinae	*Amblyscirtes aesculapius*	Austral	4
Hesperiidae	Hesperiinae	*Euphes arpa*	Austral	4
Hesperiidae	Hesperiinae	*Euphyes berryi*	Austral	4
Hesperiidae	Hesperiinae	*Euphyes dion*	Temperate	4
Hesperiidae	Hesperiinae	*Euphyes dukesi calhouni*	Austral	4
Hesperiidae	Hesperiinae	*Euphyes pilatka pilatka*	Austral	4
Hesperiidae	Hesperiinae	*Hesperia attalus slossonae*	Austral	4
Hesperiidae	Hesperiinae	*Hesperia meskei straton*	Austral	4
Hesperiidae	Hesperiinae	*Nastra neamathla*	Austral	4
Hesperiidae	Hesperiinae	*Panoquina panoquinoides panoqinoides*	Tropical	4
Hesperiidae	Hesperiinae	*Poanes yehl*	Austral	4
Hesperiidae	Hesperiinae	*Poanes zabulon*	Temperate	4
Hesperiidae	Megathyminae	*Megathymus cofaqui cofaqui*	Austral	4
Hesperiidae	Megathyminae	*Megathymus cofaqui slotteni*	Temperate	4
Hesperiidae	Megathyminae	*Megathymus yuccae buchholzi*	Austral	4
Hesperiidae	Megathyminae	*Megathymus yuccae yuccae*	Temperate	4
Hesperiidae	Pyrginae	*Erynnis brizo brizo*	Temperate	4
Hesperiidae	Pyrginae	*Erynnis brizo somnus*	Austral	4
Hesperiidae	Pyrginae	*Phocides pigmalion okeechobee*	Tropical	4
Hesperiidae	Pyrginae	*Polygonus leo savigny*	Tropical	4
Lycaenidae	Polyommatinae	*Brephidium isophthalma pseudofea*	Tropical	4

Lycaenidae	Theclinae	*Fixsenia favonius favonius*	Austral	4
Lycaenidae	Theclinae	*Fixsenia favonius ontario*	Temperate	4
Nymphalidae	Charaxinae	*Anaea andria*	Austral	4
Nymphalidae	Nymphalinae	*Anthanassa texana seminole*	Austral	4
Nymphalidae	Nymphalinae	*Marpesia petreus*	Tropical	4
Nymphalidae	Satyrinae	*Cercyonis pegala abbotti*	Austral	4
Nymphalidae	Satyrinae	*Cercyonis pegala pegala*	Temperate	4
Nymphalidae	Satyrinae	*Cyllopsis gemma gemma*	Temperate	4
Nymphalidae	Satyrinae	*Neonympha areoloata areolata*	Temperate	4
Nymphalidae	Satyrinae	*Neonympha helicta helicta*	Temperate	4
Pieridae	Coliadinae	*Zerene cesonia cesonia*	Temperate	4
Lycaenidae	Theclinae	*Ministrymon azia*	Tropical	5
Lycaenidae	Theclinae	*Strymon istapa*	Tropical	5
Nymphalidae	Nymphalinae	*Siproeta stelenes biplagiata*	Tropical	5

Table 2. Florida's most imperiled butterflies.

SPECIES	STATUS
Anaea troglodyta floridalis (Florida Leafwing)	Very local in pine rockland habitat of big Pine Key and southern mainland.
Appias drusilla neumoegenii (Florida White)	Very local in tropical hammocks in the Keys and southern mainland.
Atrytone arogos arogos (Arogos Skipper)	Declining with less than ten known colonies
Atrytonopsis hianna loammi (Southern Dusted Skipper)	Declining throughout its range with only four known colonies in Florida
Chlorostrymon maesites (Maesites Hairstreak)	Perhaps extirpated. Not reported in recent years
Epargyreus zestos zestos (Zestos Skipper)	Perhaps extirpated. Not reported in recent years.
Ephyriades brunneus floridensis (Florida Duskywing)	Very local in pine rockland habitat on Big Pine Key and southern mainland.
Erynnis zarucco subspecies (Caribbean Duskywing)	Unknown. Confined to the Lower Keys.
Eunica monima (Dingy Purplewing)	Stable but local in tropical hammocks of the southern Miami-Dade County.
Eunica tatila tatilista (Florida Purplewing)	Only one known colony.
Euphyes pilatka klotsi (Klots' Skipper)	Only a few known colonies. Confined mostly to a few areas of Big Pine Key.
Eurema dina helios (Bush Sulphur)	Extremely local in a few small parks in Miami-Dade County.
Eurema nise nise (Jamaican Sulphur)	Unknown.
Hemiargus thomasi bethunebakeri (Miami Blue)	Nearly extinct with only one or two known colonies.
Heraclides andraemon bonhotei (Bahama Swallowtail)	Extremely local in tropical hammocks of the Upper Keys.
Heraclides aristodemus ponceanus (Schaus' Swallowtail)	Extremely local in tropical hammocks of the Upper Keys.
Hesperia meskei subspecies (Rockland Grass Skipper)	Nearly extinct with only one known colony on Big Pine Key.
Junonia genoveva (Tropical Buckeye)	Only a few colonies known in the Upper Keys.
Strymon acis bartrami (Bartram's Haristreak)	Very local in pine rockland habitat of Big Pine Key and southern Miami-Dade County.

MOTH COLLECTING IN CENTRAL FLORIDA
PART VIII. NOCTUIDAE (Continued)

BY
ROY RINGS AND LORRAINE F. RINGS

This article is a continuation of the checklists published in the Southern Lepidopterists' Newsletter of 20(4):60-63(1998), 23(2):24-28(2001), 23(3):39-42(2001), 23(4):64-67 (2001), 24(1):16-19(2002), 24(2):30-33(2002) 24(3):67-70(2002), and 24(4):99-102 (2002). The species numbers are from Hodges *et al.* (1983) and the common names of moth families are from Heppner (1998). For each entry the scientific name, author, year of description, and Hodges number are in the upper left. The common name is in the upper right section. On the second and succeeding lines are the collection site(s), date, or inclusive dates of collection, and the number of individuals collected (in parentheses). Many thanks to my friend, Eric Metzler, The Ohio Lepidopterists, for identifying some noctuids that stymied me.

NOCTUIDAE (continued)

Phuphena u-album (Guenée, 1852) **9634.1**
Lake Manatee State Recreation Area, Manatee County 10/11/98 (l); Myakka River State Park, Sarasota County 10/14/98 (l).

Phuphena obliqua (Smith, 1900) **9635**
Highlands Hammock State Park, Highlands County 4/10/99 (l); Lake Manatee State Recreation Area, Manatee County 5/21/98 (l); Myakka River State Park, Sarasota County 12/25 97 (l).

Acherdoa ferraria Walker, 1865 **9636** CHOCOLATE MOTH
Avon Park Air Force Range, Osceola County 3/3/98 - 3/28/98 (5), 5/8/99 (1); Lake Manatee State Recreation Area, Manatee County 11/11/99 (l); Myakka River State Park, Sarasota County 1/26/97 - 11/22/97 (13), 4/16/98 - 5/2/98 (6).

Magusa orbifera (Walker, 1857) **9637** ORBED NARROW-WING
Lake Manatee State Recreation Area, Manatee County 11/6/97 - 12/4/97 (2).

Anorthodes tarda (Guenée, 1852) **9650** SLOWPOKE
Lake Manatee State Recreation Area, Manatee County 5/15/98 (l).

Spodoptera exigua (Hübner, 1803-08) **9665** BEET ARMYWORM
Lake Manatee State Recreation Area, Manatee County 11/1/97 (2), 5/6/98 (l).

Spodoptera frugiperda (J. E. Smith, 1797 **9666** FALL ARMYWORM
Highlands Hammock State Park, Highlands County 5/9/99 - 5/15/99 (2); Lake Manatee State Recreation Area, Manatee County 10/28/97 - 11/6/97 (7), 1/6/98 - 5/21/98 (7), 11/11/99 (l); Myakka River State Park, Sarasota County 1/28/97 - 11/22/97 (5), 1/5/98 - 11/20/98 (21).

Spodoptera ornithogalli (Guenée, 1852) **9669** YELLOW-STRIPED ARMYWORM
Lake Manatee State Recreation Area, Manatee County 5/6/98 - 5/21/98 (3); Myakka River State Park, Sarasota County 1/26/97 - 11/22/97 (6), 5/2/98 (l).

Spodoptera latifascia (Walker, 1856) **9670**
Lake Manatee State Recreation Area, Manatee County 10/28/97 - 12/12/97 (10), 1/6/98 - 5/21/98 (3); Myakka River State Park, Sarasota County 2/5/97 - 11/22/97 (9), 5/2/98 - 5/17/98 (2).

Spodoptera dolichos (Fabricius, 1795) **9671** DOLICHOS ARMYWORM
Avon Park Air Force Range, Osceola County 5/8/99 (l); Highlands Hammock State Park, Highlands County 4/10/99 - 5/15/99 (2); Lake Manatee State Recreation Area, Manatee County 10/28/97 - 12/21/97 (9), 1/4/98 - 5/21/98 (6), 11/11/99 (2); Myakka River State Park, Sarasota County 1/28/97 - 11/5/97 (10), 3/26/98 - 12/24/98 (3).

Spodoptera eridania (Cramer, 1784) **9672** SOUTHERN ARMYWORM
Highlands Hammock State Park, Highlands County 4/10/99 - 5/9/99 (2); Lake Manatee State Recreation Area, Manatee County 11/1/97 - 12/4/97 (2), 12/23/98 (l); Myakka River State Park, Sarasota County 2/5/97 - 10/14/97 (2), 5/2/98 (3).

Spodoptera sunia (Guenée, 1852) **9673**
Lake Manatee State Recreation Area, Manatee County 11/1/97 (l).

Elaphria fuscimacula (Grote, 1881) **9675**
Archbold Biological Station, Highlands County 4/25/99 (l); Highlands Hammock State Park, Highlands County 4/24/99 (l); Lake Manatee State Recreation Area, Manatee County 11/6/97 - 12/12/97 (5), 1/6/98 - 12/23/98 (17), 11/11/99 (2); Myakka River State Park, Sarasota County. 12/22/97 (2), 4/16/98 - 12/24/98 (8), 1/16/99 - 4/8/99 (8).

Elaphria nuclicolora (Guenée, 1852) **9676**
Highlands Hammock State Park, Highlands County 5/9/99 - 5/15/99 (3); Lake Manatee State Recreation Area, Manatee County 11/1/97 - 12/21/97 (10), 1/4/98 - 12/23/98 (33); Myakka River State Park, Sarasota County 2/5/97 - 10/14/97 (7), 5/17/98 - 12/24/98 (53), 4/8/99 (2).

Elaphria versicolor (Grote, 1875) **9678**
Lake Manatee State Recreation Area, Manatee County 12/12/97 (l), 1/4/98 (l).

Elaphria chalcedonia (Hübner, 1803-08) **9679** CHALCEDONY MIDGET
Avon Park Air Force Range, Osceola County 3/3/98 (l); Lake Manatee State Recreation Area, Manatee County 10/28/97 -12/4/97 (9), 1/6/98 - 12/23/98 (28), 11/11/99 (l); Myakka River State Park, Sarasota County 1/28/97 - 11/22/97 (30), 5/23/98 - 12/24/98 (4), 1/16/99 (7).

Elaphria excesa (Guenée, 1852) **9682**
Highlands Hammock State Park, Highlands County 4/24/99 (2); Myakka River State Park, Sarasota County 1/16/99 - 3/26/99 (5).

Elaphria grata Hübner, 1818 **9684** GRATEFUL MIDGET
Lake Manatee State Recreation Area, Manatee County 3/25/98 (l).

Gonodes liquida (Möschler, 1886) **9687**
Archbold Biological Station, Highlands County 4/25/99 (l); Highlands Hammock State Park, Highlands County 5/9/99 - 5/15/99 (7); Lake Manatee State Recreation Area, Manatee County 11/6/97 (l), 1/6/98 - 11/20/98 (6), Myakka River State Park, Sarasota County 1/16/99 - 2/9/99 (2).

Galgula partita Guenée, 1852 **9688** THE WEDGELING
Highlands Hammock State Park, Highlands County 5/9/99 (l); Lake Manatee State Recreation Area, Manatee County 5/15/98 (l).

Perigea xanthioides Guenée, 1852 **9689** RED GROUNDLING
Lake Manatee State Recreation Area, Manatee County 10/11/98 (l), 11/11/99 (l).

Condica videns (Guenée, 1852) **9690** WHITE-DOTTED GROUNDLING
Lake Manatee State Recreation Area, Manatee County 11/1/97 - 12/21/97 (2), 5/21/98 - 10/11/98 (3).

Condica mobilis (Walker, 1857) **9693** MOBILE GROUNDLING
Archbold Biological Station, Highlands County 4/25/99 (l); Avon Park Air Force Range, Osceola County 5/8/99 (l); Highlands Hammock State Park, Highlands County 4/10/99 - 5/15/99 (4); Lake Manatee State Recreation Area, Manatee County 10/28/97 - 12/21/97 (28), 1/6/98 - 5/2/98 (59), 11/11/99 (5); Myakka River State Park, Sarasota County 2/5/97 - 12/22/97 (4), 3/26/98 - 12/24/98 (8), 1/16/99 - 3/26/99 (3).

Condica vecors (Guenée, 1852) **9696** DUSKY GROUNDLING
Avon Park Air Force Range, Osceola County 3/3/98 (l); Lake Manatee State Recreation Area, Manatee County 4/1/98 - 10/11/98 (7); Myakka River State Park, Sarasota County 10/14/98 (l).

Condica concisa Walker, 1856) **9698**
Lake Manatee State Recreation Area, Manatee County 11/6/97 (l), 11/21/98 (l).

Condica sutor (Guenée, 1852) **9699** THE COBBLER
Highlands Hammock State Park, Highlands County 5/15/99 (l); Lake Manatee State Recreation Area, Manatee County 1/4/98 - 10/11/98 (35); Myakka River State Park, Sarasota County 1/26/97 - 25/22/97 (13), 5/17/98 - 11/20/98 (8).

Condica cupentia (Cramer, 1780) **9713**
Lake Manatee State Recreation Area, Manatee County 11/6/97 - 12/12/97 (3), 5/6/98 - 10/11/98 (4); Myakka River State Park, Sarasota County 1/28/97 (l), 11/10/98 (l), 1/16/99 - 4/8/99 (2).

Condica confederata (Grote, 1873) **9714** THE CONFEDERATE
Myakka River State Park, Sarasota County 5/17/98 (l).

Ogdoconta cinereola (Guenée, 1852) **9720** COMMON PINKBAND
Highlands Hammock State Park, Highlands County 4/10/99 (l).

Stiriodes obtusa (Herrich-Schäffer, 1854) **9725** OBTUSE YELLOW
Avon Park Air Force Range, Osceola County 5/8/99 (2); Highlands Hammock State Park, Highlands County 5/9/99 - 5/15/99 (2).

Amolita fessa Grote, 1874 **9818** FEEBLE GRASS MOTH
Avon Park Air Force Range, Osceola County 5/8/99 (l); Lake Manatee State Recreation Area, Manatee County 4/19/98 (l); Myakka River State Park, Sarasota County, 2/4/97 (7).

Amolita obliqua Smith, 1903 **9819**
Highlands Hammock State Park, Highlands County 4/10/99 (2); Myakka River State Park, Sarasota County 10/14/97 - 10/25/97 (2), 4/8/99 (l).

Chaetoglaea tremula (Harvey, 1875) **9949**
Myakka River State Park, Sarasota County 1/26/97 (l).

Psaphida resumens Walker, 1865 **10019** FIGURE-EIGHT SALLOW
Myakka River State Park, Sarasota County 1/28/97 - 2/19/97 (5).

Pseudaletia unipuncta (Haworth, 189) **10438** ARMYWORM
Lake Manatee State Recreation Area, Manatee County 12/4/97 (l); 1/4/98 - 5/21/98 (5); Myakka River State Park, Sarasota County 1/28/97 - 12/22/97 (8), 4/16/98 - 10/14/98 (7), 1/16/99 - 4/8/99 (3).

Leucania multilinea Walker, 1856 **10446** MANY-LINED WAINSCOT
Lake Manatee State Recreation Area, Manatee County 5/15/98 - 12/23/98 (39); Myakka River State Park, Sarasota County 12/24/98 (l).

Leucania latiuscula Herrich-Schäffer, 1868 (=subpuncta Harvey, 1875) **10454**
Highlands Hammock State Park, Highlands County 5/15/99 (2); Lake Manatee State Recreation Area, Manatee County 11/6/97 (l), 12/23/98 (36); Myakka River State Park, Sarasota County 1/26/97 -12/24/97 (9).

Leucania scirpicola Guenée, 1852) **10455** SCIRPUS WAINSCOT
Avon Park Air Force Range, Osceola County 3/3/98 - 4/18/98 (4); Highlands Hammock State Park, Highlands County 5/15/99 (l); Lake Manatee State Recreation Area, Manatee County 10/28/97 - 12/21/97 (82), 1/4/98 - 12/23/98 (103), 11/11/99 (9); Myakka River State Park, Sarasota County 10/14/97 - 12/22/97 (5), 1/5/98 - 4/16/98 - 12/24/98 (9), 1/16/99 (l).

Leucania adjuta (Grote, 1874) **10456**
Lake Manatee State Recreation Area, Manatee County 12/23/98 (l).

Leucania pilipalpis (Grote, 1877) **10463**
Avon Park Air Force Range, Osceola County 4/18/98 (l); Highlands Hammock State Park, Highlands County 5/9/99 (l); Lake Manatee State Recreation Area, Manatee County 10/28/97 - 12/21/97 (6), 1/4/98 - 12/23/98 (53), 11/11/99 (4); Myakka River State Park, Sarasota County 2/5/97 - 10/14/97 (5), 1/5/98 - 5/17/98 (6), 1/16/99 (5).

Morrisonia mucens (Hübner, 1827-31) **10519** GRAY WOODGRAIN
Archbold Biological Station, Highlands County 4/25/99 (2); Highlands Hammock State Park, Highlands County 4/24/99 (l); Lake Manatee State Recreation Area, Manatee County 4/19/98 (l); Myakka River State Park, Sarasota County 1/26/97 - 2/28/97 (25).

Protorthodes oviduca (Guenée, 11852) **10563** RUDDY QUAKER
Lake Manatee State Recreation Area, Manatee County 11/1/97 (l).

Ulolonche culea (Guenée, 1852) **10567** SHEATHED QUAKER
Myakka River State Park, Sarasota County 2/5/97 - 2/28/97 (2), 3/26/98 (4).

Orthodes crenulata (Butler, 1890) **10585** RUSTIC QUAKER
Avon Park Air Force Range, Osceola County 5/8/99 (l); Highlands Hammock State Park, Highlands County 5/9/99 (2).

Tricholita lutina (Smith, 1902) **10633**
Avon Park Air Force Range, Osceola County 5/30/99 (2); Highlands Hammock State Park, Highlands County 4/10/99 - 5/15/99 (3).

Xanthopastis timais (Cramer, 1782) **10640** SPANISH MOTH
Myakka River State Park, Sarasota County 1/26/97 - 2/28/97 (2).

Agrotis ipsilon (Hufnagel, 1766) **10663** BLACK CUTWORM
Myakka River State Park, Sarasota County 2/4/97 (l), 12/24/98 (l).

Agrotis subterranea (Fabricius, 1794) **10664** GRANULATED CUTWORM
Avon Park Air Force Range, Osceola County 5/30/99 (l); Highlands Hammock State Park, Highlands County 4/10/99 - 5/15/99 (5); Lake Manatee State Recreation Area, Manatee County 4/1/98 - 5/21/98 (43); Myakka River State Park, Sarasota County 2/5/97 (l), 5/2/98 - 5/17/98 (3), 4/8/99 (3).

Feltia geniculata Grote & Robinson, 1868 **10680** KNEE-JOINT DART
Lake Manatee State Recreation Area, Manatee County 11/6/97 (3).

Euagrotis lubricans (Guenée, 1852) **10901** SLIPPERY DART
Highlands Hammock State Park, Highlands County 4/24/99 (l); Lake Manatee State Recreation Area, Manatee County 12/4/97 (2), 1/6/98 - 12/23/98 (67); Myakka River State Park, Sarasota County 11/22/97 (3), 4/16/98 - 5/17/98 (17).

Anicla infecta (Ochsenheimer, 1816) **10911** GREEN CUTWORM
Avon Park Air Force Range, Osceola County 3/3/98 (l); Highlands Hammock State Park, Highlands County 4/10/99 - 5/15/99 (11); Lake Manatee State Recreation Area, Manatee County 10/28/97 - 11/20/97 (19), 1/6/98 - 12/23/98 (8), 11/11/99 (2); Myakka River State Park, Sarasota County 1/26/97 - 11/22/97 (30), 3/26/98 - 5/2/98 (6), 1/16/99 - 2/9/99 - 4/8/99 (16).

Schinia trifascia Hübner, 1818 **11149** THREE-LINED FLOWER MOTH
Lake Manatee State Recreation Area, Manatee County 10/28/97 - 11/1/97 (5), 10/26/98 (2), 11/11/99 (2); Myakka River State Park, Sarasota County 10/14/97 (3).

Schinia gaurae (J. E. Smith, 1797) **11168** CLOUDED CRIMSON
Lake Manatee State Recreation Area, Manatee County 5/21/98 (l).

The End

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REPORTS OF STATE COORDINATORS

STATEMENT OF PURPOSE AND PHILOSOPHY: We encourage any and all members to report occurrences of species in your area. One time records of common species can be included for documentation purposes. Most of the records you send in will be included in the state reports, but records are open to editing by the respective state coordinators. Species that have been reported numerous times in a given location and are recorded in season are **not** likely to be included. Any unusual reports (uncommon species, state records, *etc.*) may require a good photograph or a specimen for confirmation.

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

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

Florida: Robert Beiriger, 16356 Trafalgar Drive, East, Loxahatchee, FL 33470, E-Mail: bostrihid@mail.ifas.ufl.edu

David Fine took a trip to the Keys (Monroe County) on February 28 and visited Bahia Honda State Park and Big Pine Key. On Bahia Honda he found 3 *C. thomasi* flying along with numerous, *Leptotes cassius, Strymon istapa, Strymon martialis, Wallengrenia otho, Agraulis vanillae, Heliconius charithonius, Danaus plexippus, Phoebis philea, P. sennae, Siproeta stelenes, Polygonia leo,* and *Phocides pigmalion okeechobee*. On Big Pine Key a large number of

Cyclargus ammon, Strymon acis, Leptotes cassius, Hemiargus ceraunus, Agraulis vanillae, Heliconius charithonius, Danaus plexippus, Ephyriades brunnea, Phoebis philea, Euphyes pilatka klotsi, and a beautiful day flying moth *Composia fidelissima were observed.*

He also saw and or photographed the following moths along the way: *Eupyrrhoglossum sagra, Pseudosphinx tetrio, Erinnyis ello, Enyo lugubris, Xylophanes pluto, Xylophanes tersa, Cautethia grotei, Protambulyx carteri,* and *Pachylia ficus*. Dave believes that the gradual increase in moth and butterfly populations after the middle of October and the drastic decrease in population after the end of April is a direct result of the mosquito control program in the Florida Keys.

Dave Fine and Robert Beiriger went looking for *Megathymus yuccae* in Highland County, Florida, on March 1, 2003. We were very disappointed that none were on the wing and no eggs were to be found. Species seen included *Eurema daira, E. lisa, Phoebis sennae, Pterourus palamedes*, and *Pterourus troilus*

David Fine and his dad went photographing Lepidoptera in the Faxahatchee area (Florida, Collier County). David said it was a good day for Hesperids. They saw and/or photographed the following skippers: *Asbolis capucinus, Euphyes arpa, E. berryi, E. pilatka, Oligoria maculata, Atrytone logan, Calpodes ethlius, Phocides pigmalion okeechobee, Polites vibex*, and *Hylephila phyleus*. Butterflies observed included *Pterourus troilus, P. glaucus, P. palamedes, Heraclides cresphontes, Papilio polyxenes, Heliconius charitonius, Agraulis vanillae, Danaus gilippus, D. plexippus, D. eresimus, Phyciodes tharos, Anartia jatrophae, Junonia coenia, Euptoieta claudia, Limenitis archippus,* and *Neonympha areolata*. *Calephelis virginiensis* were seen everywhere and were the most common butterfly seen. The only moth seen during the trip was *Cosmosoma myrodora.*

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

Records are from James Adams and Irving Finkelstein (Irving and James both participated in the one night trip to NE GA in March, 2003). Most records presented here represent new or interesting records (range extensions, unusual dates, uncommon species, county records, *etc.*) or newly identified species, mostly for NW Georgia. Known County and State records are indicated.

Calhoun, Gordon Co., GA

NOCTUIDAE: *Lithophane viridipallens,* several records, November 2002 -- early February 2003; *Eupsilia sidus* (**COUNTY**), at bait, Jan . 23, 2003; *Feralia major*, Dec. 29, 2002, second earliest date (yes, I said earliest; normally doesn't emerge until early Jan.). **GEOMETRIDAE**: *Paleacrita merricata*, several from early Jan. into Feb., including one on Jan. 7, 2003, which is the earliest record I know.

Dillard, Rabun Co., GA

Oct. 13 - 15, 2002

NOCTUIDAE: *Papaipema lysimachiae* (**COUNTY**, third in STATE); *P. cataphracta* (**COUNTY**); *Agnorisma bollii*.

March 8, 2003 The intent of this trip was to document the existence of several early season species that were actually expected, just not recorded with any frequency from Georgia -- we were quite successful!

NOCTUIDAE: *Zale bethunei*; *Lithophane unimoda* (**COUNTY**); *L. querquera* (**COUNTY**); several *Psaphida thaxteriaunus* (**COUNTY**; second + from state); *P. grandis*; *Feralia jocosa* (**STATE**); *Orthosia hibisci* and *rubescens*; *Cerastis fishii* (**COUNTY**, second from STATE). **GEOMETRIDAE**: *Phigalea titea, strigataria,* and *denticulata*; *Caripeta aretaria* (**COUNTY** and **VERY EARLY**!); three *Eupithecia* species (will be determined for future report). **TORTRICIDAE**: several species, also to be determined for future reports.

Northwest slope of Rabun Bald, Rabun Co., GA, approximately 3700'

Oct. 14, 2002

NOCTUIDAE: *Catocala cerogama; Papaipema eupatorii* (**COUNTY**); *Xylotype capax* (**COUNTY**).

March 8, 2003 -- see note under Dillard about this trip.

Some of the same species as listed for Dillard; most notable were more *Feralia jocosa* (**STATE**) from a stand of Hemlocks (one of the food plants for *F. jocosa*). It is clear that this moth species is resident in Georgia.

Gates Chapel Rd., 8 mi. NW of Ellijay, Gilmer Co., Irving Finkelstein:
NOCTUIDAE: *Papaipema maritima*, Nov. 5, 2002 (third record for the state). **SESSIIDAE**: *Synanthedon kathyae* (**COUNTY**), at pheromone lures, June 7 - 9, 2002.

BP Gas Station, 5 miles N. of Gainesville, Hwy. 365, Hall Co., March 8, 2003, Irving Finkelstein:
NOCTUIDAE: *Psaphida styracis* (light forms; **COUNTY**)

BP Gas Station, 4 miles E. of Clarkesville, Hwy. 365, Habersham Co., March 9, 2003, Irving Finkelstein:
GEOMETRIDAE: *Paleacrita merricata* (**COUNTY**)

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

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

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

South Carolina: Ron Gatrelle, 126 Wells Rd., Goose Creek, SC 29445, E-Mail: gatrelle@tils-ttr.org

Richard Boscoe determined the host of *Anthocharis midea midea* (Island Falcate Orange-tip) here on the southeast coast a year ago. It is *Descurainia pinnata* (Western Tansy Mustard). I have never found this taxon associated with any other plant. It is a coastal species in SC that extends north along the NC coast about half way up. Here we have a plant and a butterfly where the biogeographical history of both would be revealing to fully study.

Descurainia pinnata is a common host of the close relatives of *A. midea* out west. The *Anthocaris sara* complex as well as the *Euchloe hyantis* complex, *Euchloe ausonides* and *Pieris sisymbrii* all use *Descurainia pinnata.*

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

John Hyatt reports the following 20 year old record (better late than never!): Davidson Co., 12 mi SW of Nashville, at MV trap, 20-VIII-1973, *leg.* L. Durden: *Acossus connectus.* (Lance Durden is now at Georgia Southern University, but he collected while living in Nashville. Recently he sent James Adams some photos of UFO's , and this was among them. Identity confirmed by Ed Knudsen, who suggests that the bug got from its usual S. TX locale to Tennessee in an ornamental nursery plant, or a bunch of mesquite wood, since larvae are wood-borers.)

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

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

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The Southern Lepidopterists' News is published four times annually. Membership dues are $15.00 annually. The organization is open to anyone with an interest in the Lepidoptera of the southern United States. Information about the Society may be obtained from, and dues may be sent to: Jeffrey R. Slotten, Treasurer, 5421 NW 69th Lane, Gainesville, FL 32653.

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SOUTHERN LEPIDOPTERISTS' SOCIETY
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