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J. BARRY LOMBARDINI: EDITOR

NEW LARVAL FOOD PLANT RECORD FOR *AUTOMERIS IO*

BY
F. MATTHEW BLAINE

On March 3, 2015, my wife found one caterpillar eating the leaves of our Hong Kong Orchid tree, *Bauhinia blakeana.* The tree is located in our front yard in Melbourne, Florida. We planted the tree two years ago with the intent of providing butterflies with some flowers to nectar on.

The first *Automeris io* (Fabricius), caterpillar found March 3, 2015, eating leaves of *Bauhinia blakeana*, in its 5th instar.

A photograph of the caterpillar was posted on Facebook where it got several comments and warnings about touching the spines. I used some of the information posted there to further research the caterpillar and to make an accurate identification.

Immediately after collecting the caterpillar a thorough search of the tree was conducted inspecting all of the leaves and branches. As a result of this search, one additional caterpillar was found on the tree.

Both of these caterpillars were placed in a BioQuip collapsible cage with branches of the tree having fresh leaves for the caterpillars to feed upon. The contents of the cage were misted with water every other day. The caterpillars were observed in the cage, eating the leaves on many occasions. The cage is kept on an outdoor screened in porch where it gets fresh breezes and

BioQuip 12" cube collapsible black rearing & observation cage setup on screened in porch with all four *Automeris io* and fresh leaves of *Bauhinia blakeana* to feed on. Notice that the cage is elevated from the floor hopefully to discourage ants from getting into the cage.

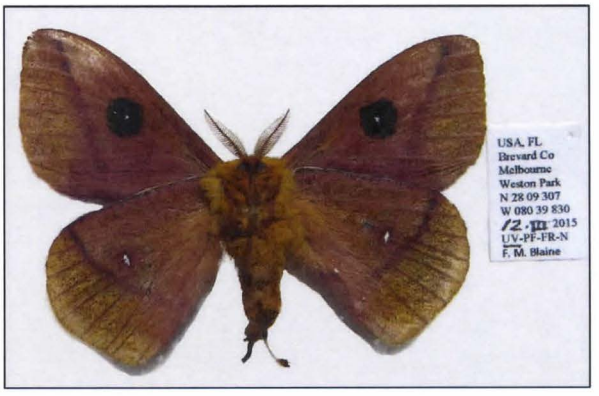
The second *Automeris io* found on March 3, 2015, eating leaves of *Bauhinia blakeana*, in its 5th instar.

is sheltered from direct sunlight.

One evening I was on the porch reading when I heard loud chewing noises coming from the cage. I found one of the caterpillars on the edge of a fresh leaf chewing away. I have continued to discard dried branches and leaves while adding fresh branches with the hope of hatching both of them out to imago.

In addition on the 16th of April 2015, while trimming the same tree, I found two more caterpillars which were placed in the cage. Several days later the first two caterpillars had transformed into thin papery cocoons.

This species has a very wide variety of food plants which have been documented and recorded; however, I have not found a record for them feeding on the Hong Kong Orchid tree *Bauhinia blakeana*. I am making this report as a record of that fact.



Dorsal and ventral views of male *Automeris io* that was caught in a UV light trap on March 12, 2015, about 50 feet from the *Bauhinia blakeana* on which the four caterpillars were found. Unfortunately it is a little worn from Coleoptera in the trap.

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Covell, Jr., C.V., 1984. *A Field Guide to the Moths of eastern North America.* The Peterson Field Guide Series No. 30. Houghton Mifflin Co., Boston.

Eaton, E. R. & Kaufman, K., 2007. *Kaufman Field Guide to Insects of North America.* Publisher: Houghton Mifflin Harcourt.

University of Florida Featured Creatures: Io Moth: http://entomology.ifas.ufl.edu/creatures/misc/io_moth.htm

Wikipedia: Io Moth: http://en.wikipedia.org/wiki/Automeris_io

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Abilene, Texas (Photo by Marianne Kwiecinski)

INVESTIGATING THE POSSIBILITY OF A TRANS - GULF MONARCH MIGRATION — A NEW CITIZEN SCIENCE PROJECT IS BORN

BY

CANDY SARIKONDA

On September 29, 2011, I brought a dozen monarch butterflies to Sylvania Franciscan Academy, to teach eager students how to tag a butterfly. We tagged and released several butterflies that day, releasing them and watching as they climbed a nearby thermal. One student exclaimed, "Oh, I hope they make it to Mexico! Will you tell us if they do?" "Of course!" I replied. And six weeks later, I received a thrilling email from Monarch Watch — one female monarch, released by me and the students in Sylvania, Ohio, had been found by Edward Brandao in New Orleans, Louisiana. PPA 869 had travelled 1,013 miles in 43 days and was still alive when Mr. Brandao found her and re-released her. The students were ecstatic over this news!

I wondered where PPA 869 went from that point. Did she hug the Gulf coast, eventually making her way to the overwintering sanctuaries in Mexico? Or did she try to cross the open waters of the Gulf?

Most researchers agree that monarchs are reluctant to cross open water, especially if they cannot see land. And this view is supported by some tag recoveries. But having fished the Great Lakes for most of my life, and spending time documenting the monarch migration through the Lake Erie Islands, it was clear to me that monarchs may be capable of attempting a trans-Gulf flight. But was there any evidence that they do so?

I began researching Journey North. I noted a few reports of monarchs being sighted on offshore drilling platforms, or by shrimp boat captains fishing the Gulf. These sightings usually occurred 20-100 nautical miles offshore http://www.learner.org/jnorth/tm/monarch/GulfCrossingDebateDavis.html and http://www.learner.org/jnorth/monarch/fall2012/c102512_surprise.html I noted definite debate over whether or not a Gulf crossing would be successful, and if significant numbers of migrants would survive the crossing http://www.learner.org/jnorth/tm/monarch/GulfCrossingDebate.html

I saw a video of an interview with Ranger Mike Aymond of Gulf Islands National Seashore Park. He mentioned the park was a migratory pitstop for monarchs. I contacted him. "What have you seen?" I asked. Mr. Aymond stated, "I have had several colleagues confirm that they have been visited by monarchs while on research vessels 100 miles out in the Gulf." Whoa!

I became more and more interested in the oil and gas platforms, referred to as rigs. Could rig workers help in this effort? Would they be willing to report their sightings, or even allow a researcher on board their platforms?

With a little more online digging, I realized one researcher had already documented the migration from the rigs! Dr. Gary Noel Ross, an entomologist from Louisiana, had spent every October from 1991to 1995 on board the oil platforms. I contacted him, and he immediately agreed to an interview.

I spoke with Dr. Ross for over an hour. I asked, "What got you started? How did you get on the rigs?" Dr. Ross explained that in 1990, a note from Bryant Mather appeared in the News of the Lepidopterists' Society. In the note, Mr. Mather recounted a conversation with Hylma Gordon, who was a cook on a supply boat that serviced many of the oil and gas platforms. She reported seeing "a cloud" of monarchs coming and landing on every available surface of a rig, with some butterflies landing on top of one another. The number of monarchs was so great that rig workers actually had to resort to using hoses to wash monarchs off the equipment. When Mrs. Gordon asked some of the seasoned workers about their past experiences, they stated the monarchs' arrival was a yearly occurrence in the area. Mrs. Gordon mentioned the date of October 17-18th. Dr. Ross was fascinated by this report, and decided to contact Marathon oil executives. They in turn suggested he contact Petroleum Helicopters, Inc. This was a helicopter agency that serviced the rigs.

Dr. Ross was able to track down two helicopter pilots, both of whom enjoyed tracking the bird migration in the Gulf. Dr. Ross met with pilot Tom Schaal, and inquired about his experiences with monarchs on the Gulf. Mr. Schaal had been flying the Gulf for over 20 years. He remembered some occasions in which he observed monarchs so thick that they appeared as a stream of smoke moving southwest. He often saw them resting on the fence surrounding an offshore heliport, particularly one to two days after a cold front moved through. Armed with this news, Dr. Ross sought permission to board a platform 72 miles south of Cameron Parish, LA. With permission granted from Union Oil Company of California (UNOCAL), Dr. Ross and his cinematographer friend Don Valentine boarded a platform, known as West Cameron Block 280. Dr.

Ross chose mid-October, based on previous reports of monarchs from helicopter pilots and rig workers, and spent 2-3 weeks each October observing the migrating butterflies.

Dr. Ross explained, "We knew when they (the monarchs) would be coming. They would come behind a cold front—when the weather cleared a day or two later, they would show up. They often came in pairs or groups of 20-30, and usually around 5pm. They would land, and then sometimes spend the night, leaving the next day. Other times, we would watch them land around the dinner hour. We would then leave to eat dinner. When we returned to look for them afterwards, they were gone. Sometimes, we saw them take off, even in pitch black. They usually headed south-southwest." Don Valentine was able to capture some video footage of the monarchs, and this footage can be seen in the film, "The Wonders of God's Creation." Dr. Ross reports his observations in detail in the article, "A Clockwork Orange" http://southernlepsoc.org/pdf/Vol_32_no_1.pdf

Notably, Dr. Ross also theorizes the monarchs may return from Mexico across the Gulf in spring. He described viewing monarchs from onshore in Cameron Parish, LA, and reported seeing monarchs fly in from the Gulf. A report on Journey North by Carol Hough might suggest this attempted crossing does occur as well http://www.learner.org/jnorth/monarch/spring2014/c040314_gulf_mx.html

Can monarchs make it across the Gulf? That remains to be seen. With a good tailwind, and a powerful will to survive, it may not be so unlikely. But getting proof of a deliberate, successful crossing is another matter. Says Dr. Chip Taylor, "Rumors of monarchs showing up in the Yucatan and washing up dead along the coast of Honduras have popped up from time to time but there are no data - none - substantiating these rumors. Similarly, monarchs have been sighted along the coast of Veracruz in MX in numbers suggesting a non-Mexican origin but, again, there is no verification these monarchs originated north of the border." Dr. Ross tagged 100 monarchs on the oil platforms, but did not get a recovery. The chances of a recovery are "worse than a needle in a haystack," says Dr. Ross.

Still, needles in haystacks have been found.

Wendy Caldwell, the Coordinator for the Monarch Joint Venture, took the initiative. She published my report on the possibility of a trans-Gulf migration in the MJV news http://monarchjointventure.org/news-events/news/trans-gulf-migration I subsequently shared this report with subscribers to Monarch Watch's listserv, D-plex. Dr. Tracy Villareal, a marine biologist with the University of Texas at Austin, read the news article. Excited about the possibility of documenting the migration across the Gulf, Dr. Villareal began working on the development of a citizen science project designed to track the monarch migration over water. Called Marine Monarchs, the new project aims to enlist the aid of oil rig workers, watermen, naturalists, and Gulf-area residents to document monarch sightings in and around the Gulf, and even over other bodies of water. The project is seeking funding for a specialized app that will allow an observer to take a photo of the monarch (or monarchs), and instantly record weather information and flight vector data. Dr. Chip Taylor has also joined the project, and the new app will also aid in tracking the migration over land. https://hornraiser.utexas.edu/project/ 54e7881614bdf7205ddd5a51 For the first time ever, flight vectors will easily be captured, and researchers will be able to tell which direction monarchs are intending to travel, and how weather influences their travel.

If you have seen monarchs in and along the Gulf, or know of people who have seen monarchs flying over lake, ocean or especially Gulf waters, please report your sightings to the Marine Monarchs facebook page https://www.facebook.com/marine.monarchs We want to know what you have seen! Citizen scientists are invaluable to the study of the monarch butterfly and its migration. So please share your report!

(Candy Sarikonda, Conservation Specialist, Monarch Watch; E-mail: koundinya@bex.net)

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DEFINITION:

Ommatidium - an individual light-sensitive unit of the compound eye of invertebrates such as insects and other arthropods. This unit is composed of a number of photoreceptor cells plus other cell types. [1, 2]

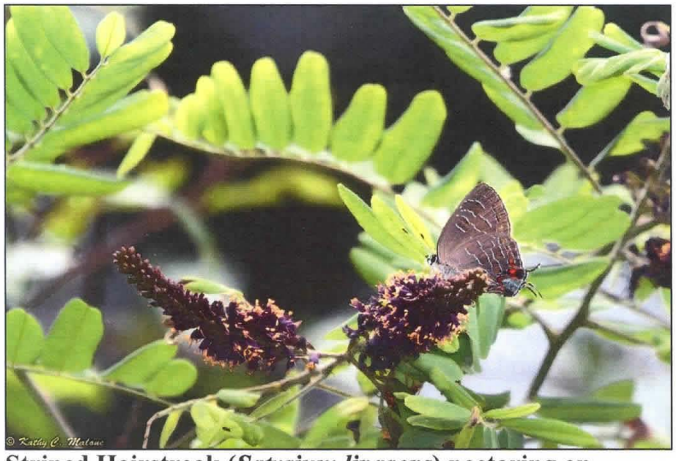
1) http://en.wikipedia.org/wiki/Ommatidium
2) http://www.thefreedictionary.com/ommatidia

STRIPED HAIRSTREAK (*SATYRIUM LIPAROPS*), NECTARING ON *AMORPHA FRUTICOSA*, HIGH SPRINGS, FLORIDA

BY

KATHY MALONE

A new yard butterfly (April 25, 2015)! I cannot believe it. Two sparkle berries, its host, were planted 10 years ago in my yard. I had a vague hope this butterfly would someday appear in my yard. I think it is so cool this butterfly found its way here because we are surrounded by pasture and open areas. Somehow butterflies find their hosts! The closest I have seen this species to my house is nine miles.



Striped Hairstreak (*Satyrium liparops*) nectaring on *Amorpha fruticosa*.

Striped Hairstreak

Striped Hairstreak

The flash caught the fresh violet sheen. Thank goodness for tripods, long lenses and flash. This tiny creature was way high at the tippy top of this tree (Fig. 1 and 2). It stayed for about two hours in the same vicinity and then I never found it again today. Maybe tomorrow!

Three days later on April 28th, I finally found it again after looking quite intensely each day since I first spotted it on April 25th. This time it was exactly at eye level so I used my short macro lens for a closeup.

(Kathy Malone, E-mail: zlongwing@aol.com)

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DEFINITION:

Estivation - a state of dormancy or torpor (considered to be similar to hibernation) in which certain animals lower their metabolic rate when exposed to high temperatures and dry conditions. This allows these animals to avoid damage, *e.g.*, desiccation from a hostile environment (high heat and high dryness) during the hot dry season of the year. [1,2]

1) http://www.thefreedictionary.com/estivation
2) http://en.wikipedia.org/wiki/Aestivation#Arthropods

MEXICAN AND VARIEGATED FRITILLARIES (*EUPTOIETA HEGESIA* AND *E. CLAUDIA*, NYMPHALIDAE) IN WESTERN AND CENTRAL NEW YORK

BY

ROBERT DIRIG

THE MEXICAN FRITILLARY *EUPTOIETA HEGESIA*

LARGE INSECT COLLECTIONS, especially old institutional ones, house many treasures, and have nearly limitless potential for future study. Among the most exciting discoveries that can be made in entomological museums are specimens that document occurrences of species far from their centers of abundance.

This paper reports a specimen of the **Mexican Fritillary** [***Euptoieta hegesia* (Cramer), Nymphalidae**] from western New York, 1300 miles northeast of its nearest known southern U.S. record in Texas (Opler *et al.*, 1995). It is apparently the first substantiated occurrence of this subtropical butterfly in eastern North America (Figs. 1-2). The specimen was inadvertently filed as a ♀ **Variegated Fritillary** (*E. claudia*) in the series of that species at the Cornell University Insect Collection (CUIC), where it was overlooked for decades. In good condition except for slight marginal damage on the right hindwing, it was collected by JOHN G. FRANCLEMONT at **Chafee** [now spelled *Chaffee*], **Erie Co., New York**, on **3 Sept. 1933**. Recalling the collecting event 68 years later, Franclemont (*verbal comm.*, 2001) said he saw the butterfly flying over a mowed field on a large farm, while pitching bundles of oats to another person on a hay wagon, and stopped to catch it with his ever-handy net.

The Mexican Fritillary is a resident of Mexico, Central America, South America, the Antilles, and the Bahamas (Scott, 1986:336), but becomes "*an occasional temporary colonist along the Arizona-Mexico border*" (Glassberg, 2001:134-135). Stewart *et al.* (2001:126-127) reported it from "*southeastern Arizona.*" Opler *et al.* (1995) mapped additional occurrences in Texas and southern California. Scott (1986:336) considered it to be "*somewhat migratory.*" Strays have rarely appeared as far north as Idaho (Opler *et al.*, 1995) and Manitoba (Layberry *et al.*, 1998). The record from Chaffee adds another far-flung occurrence, and is a ***state record for New York***.

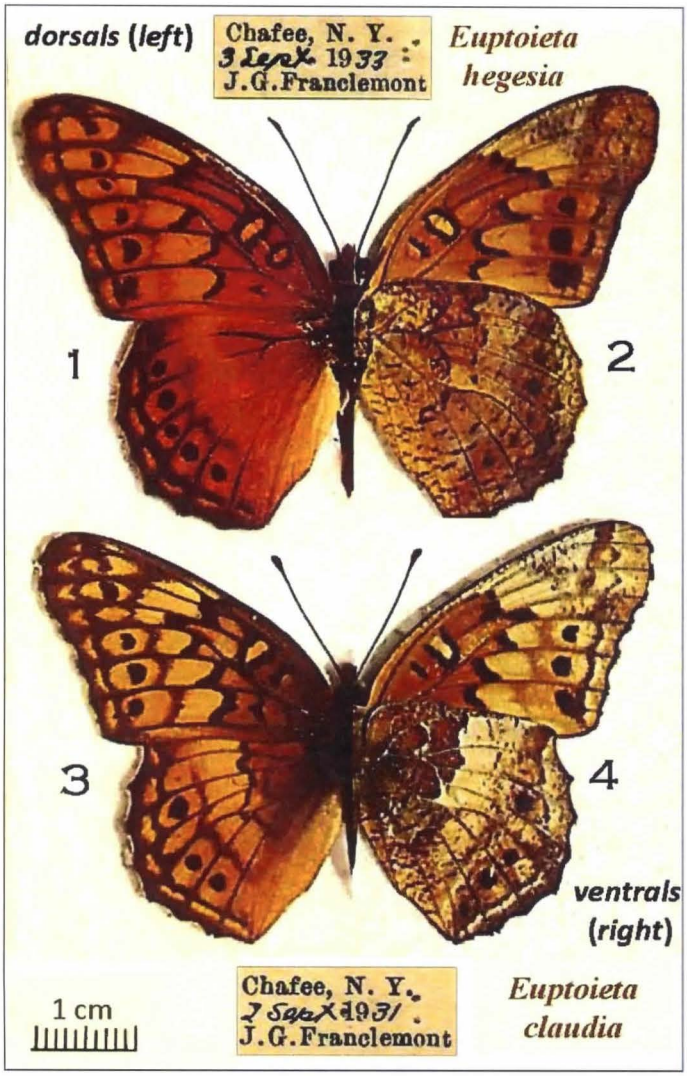
Larvae of this butterfly feed on Passifloraceae, including Hairy Passionflower (*Passiflora foetida*) and possibly *P. bryoniodes* in Arizona (Stewart *et al.*, 2001:391); and on Yellow Alder (*Turnera ulmifolia*) in Mexico and the Antilles (Scott, 1986:336), including Jamaica (Schappert & Shore, 1998). A series of photographs taken by Berry Nall at Mission, Texas, in 2008, beautifully illustrates the life stages (Butterflies of America, 2013): Fully grown caterpillars are glossy red, with silvery-white and black stripes and markings, and longitudinal rows of sharply pointed black spines. Two longer, bulbous-tipped black prothoracic spines arch forward over the head. The chrysalis is tawny with metallic dorsal points, extensive silvery markings, and a mother-of-pearl iridescence.

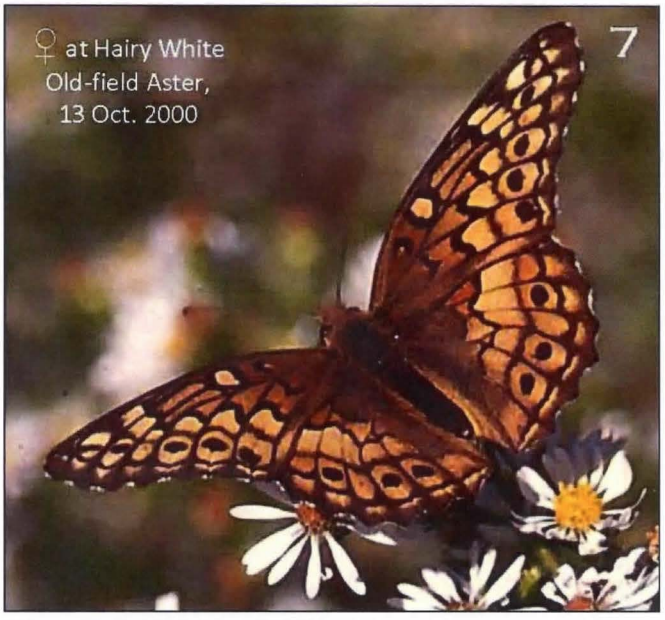
Adults of ***Euptoieta hegesia*** average slightly smaller than ***E. claudia***, have brighter red-orange wing dorsals that lack dark markings at the base of the hindwings, and have less boldly marked hindwing venters. Figs. 1-4 highlight wing contrasts of the two species. Careful checking of these characters on all *Euptoieta* observed or collected north of the normal range of *hegesia* may reveal additional extralimital occurrences.

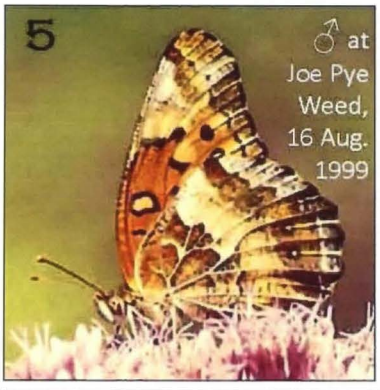
THE VARIEGATED FRITILLARY *EUPTOIETA CLAUDIA*

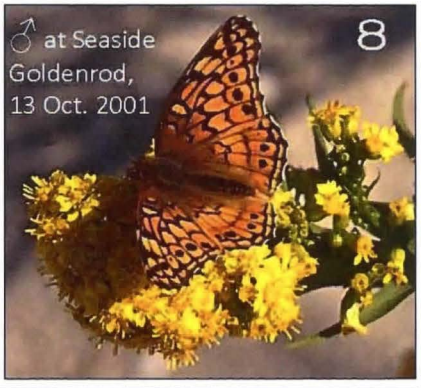
The following section summarizes records of the **Variegated Fritillary** [***Euptoieta claudia* (Cramer)**] (Figs. 3-10, 12, 14-15] in western and central New York, provides notes on its biology, and suggests a context for its seasonal movements at the northern fringe of its range.

WESTERN NEW YORK (Fig. 10): The Variegated Fritillary has been infrequently recorded in western New York. Van Duzee (1891:109) and Wild (1939:35) reported two from **Lancaster**, Erie County, on 2 July 1880. Forbes (1928:683) added **Buffalo**, Erie County, and **Pittsford**, Monroe County. Wild (1939:35) mentioned one observed by ROGER PRATT in **South Wales**, Erie County. Saunders (1932:162) found a ♀ in the **Allegany State Park**, Cattaraugus County, on 24 July 1931; and I photographed a fresh ♂ near the Allegheny River, 6 miles southwest of **Salamanca**, Cattaraugus County, on 16 Aug. 1999 (Figs. 5 & 10). FRANCLEMONT also collected *E. claudia* on the same farm in **Chaffee**, Erie County, on 6 Sept. 1929, and 2 Sept. 1931 (Figs. 3-4, CUIC); while LAURENCE R. RUPERT—his student contemporary at Cornell University, and lifelong lepidopterist colleague — found two *E. claudia* at nearby **Sardinia**, Erie County, on 6 Aug. 1933 (CUIC). Rupert, in his letter to me of 12 July 1977 (*21-29-2809*, Cornell University Archives; Dirig,







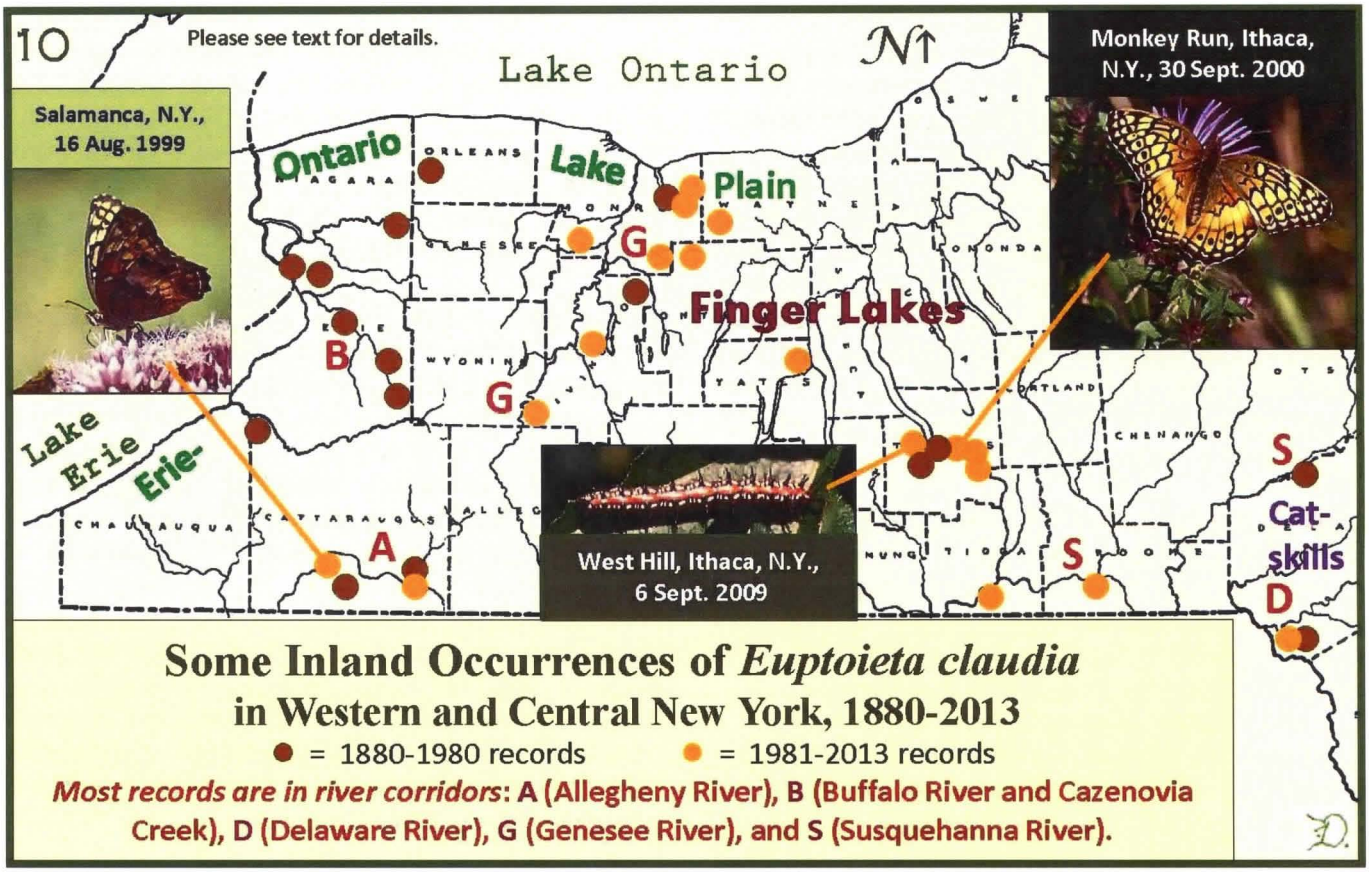


Euptoieta Fritillaries in New York and New Jersey

Mexican Fritillary (***1-2***) & **Variegated Fritillary** (***3-4***) from Chaffee, N.Y., 1930s (*photos courtesy of the Cornell University Insect Collection*). Nectaring **Variegated Fritillaries** near Salamanca, N.Y. (***5***), in Ithaca, N.Y. (***6***), and at Cape May, N.J. (***7-8***). A fresh **Variegated Fritillary**, basking widespread in evening light, Rush, N.Y., 18 Sept. 2011, *photo by David Southby* (***9***). Please see the text for details.

& Cryan 1986: 244), included *E. claudia* on a list of butterflies that were "*common, or even abundant*" in his youth at Sardinia, but were not seen there by him in later years. Shapiro (1974:38) mapped additional unspecified sites in Erie, Cattaraugus, Orleans, and Livingston Counties that have been included in Fig. 10.

RECENT REPORTS (SINCE 2000) FOR WESTERN NEW YORK (Fig. 10) indicate ***an apparently reproducing colony*** in recently farmed dry fields that were in various stages of succession at **Rush**, Monroe County, reported by MARTHA ZETTEL in her *NYSButterflies* posts in autumn 2007, of one worn butterfly on 25 Aug., eight adults on 16 Sept., thirty on 20 Sept., and forty-seven on 22 Oct. [her last date was 31 Oct. (Zettel, 2007)]. She later added records for the same site from 7 Aug. to 9 Nov. 2011, and 4 July to 17 Aug. 2012 (Southby, 2011; C. Southby, *email*, 2 March 2015). At **Olean**, Cattaraugus County, JOHN T. MACRAY sighted adults on 28 July 2004 & 5 May 2012 (Mello, 2005:85, 2013:152). And STEVEN DANIEL found one at the **Old Restof Salt Mine** near Geneseo, Livingston County, on 24 Sept. 2005 (his *NYSButterflies* post). CAROL SOUTHBY (*email*, 2 March 2015) shared a constellation of observations by avid members of the Rochester [N.Y.] Butterfly Club, from **Portage**, Livingston County (near Letchworth State Park), 25 July-2 Oct. 2000 (A. & J. WATSON); Trolley Path, **Perinton**, Monroe County, 24 Oct. & 1 Nov. 2007 (M. J. PROSHCEL & S. MCCREEDY); Ganondagen – Ft. Hill, **Victor**, Ontario Co., 25 Sept. 2008, and Ganargua Creek Meadow Preserve, **Mecadon**, Wayne County, 10 Oct. 2008 (J. DOMBROWSKI); **Mendon Ponds Park**, Monroe County, 9 Sept. 2011 (S. Daniel); **Penfield**, Monroe County, 25 Aug. 2012, 27 Aug. & 8 Sept. 2013 (C. SOUTHBY, D. SOUTHBY, E. HARTQUIST, & K. HARTQUIST); and Oatka Creek Park, **Wheatland**, Monroe County, 2 Oct. 2013 (J. ADAMS).



CENTRAL NEW YORK (Fig. 10): There are fewer records for this region. *Euptoieta claudia* was ***historically*** found at **Ithaca**, Tompkins County: a worn ♀, 10 Oct. 1898; and by A. M. SHAPIRO (Lower Cayuga Inlet valley, 11 Aug. & 12 Sept. 1967; and Collegetown, 5 Sept. 1968, all CUIC). In the **Catskill Region**, Cleveland (1896:72) recorded "*a few specimens observed in October* [1894]" at **Oneonta**, Otsego County (in the Susquehanna River corridor); and MATTHEW F. DIRIG collected a small, worn and faded ♂ on 21 June 1979 (my collection) and two ♀♀ on 25-26 July 1981, at **French Woods**, Delaware County (near the Delaware River). ***RECENT RECORDS*** from **Port Dickinson**, Broome County, 29 Aug. 2011, by BOB GROSEK, and **Owego**, Tioga County, 26 July 2011, by COLLEEN WOLPERT (both in Mello 2012:167), are also from the Susquehanna River valley. In the **Finger Lakes Region**, recent sightings include **Dresden**, Yates County, on the west side of Seneca Lake, 7 Oct. 2010, by VERA SHOTWEL (her posts to *NYSButterflies*); but the rest are from the **Ithaca area** at the south end of Cayuga Lake: Monkey Run, 30 Sept. 2000, by R. DIRIG (Figs. 6 & 10, Dirig, 2012:7); Mundy Wildflower Garden, Cornell Plantations, 2 Sept. 2005, by JAY MCGOWAN (photo, *NYSButterflies*); West Hill, a dozen **wild larvae** on *Passiflora incarnata*, 2-6 Sept. 2009, by LENORE & VERN DURKEE, & R. DIRIG (Figs.

10-11); Cayuga Inlet, in large parking lots of adjacent supermarkets, 15 May 2010, by R. DIRIG; and hovering over a display of annual flowers, 27 July 2011, by BILL EVANS (Mello, 2012:167); Caroline, Goetchius Wetland Preserve, 18 Aug. 2011, by CHARLES R. SMITH (Mello, 2012:167; Dirig, 2012); and Freese Rd., in community gardens, 25 Sept. 2011, by MEENA HARIBAL (Mello, 2012:167). Aggregations of recent records around Ithaca and Rochester reflect the concentrated presence of avid field lepidopterists there since 2000. (There are likely additional records that I have not found, but those given present a good overview of occurrences.)

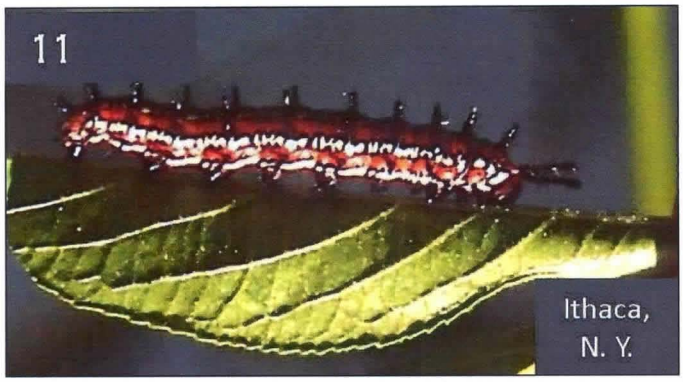
SPRING AND SUMMER MOVEMENTS: Records mapped in Fig. 10 ***cluster along major river systems and lakeshores.*** Variegated Fritillaries may arrive from the Midwest along the **Erie-Ontario Lake Plain** in western New York, moving northeast, then some following the Buffalo River and Cazenovia Creek upstream (to the southeast); and others going farther east to the Genesee River drainage, before hitting the east-west Erie Canal and north-flowing outlets of the Finger Lakes (Fig. 10). Because of intervening high ridges of the Appalachians, sightings in the Susquehanna and Delaware River corridors of south-central and eastern New York (Fig. 10) are probably of immigrants from the **Atlantic Coastal Plain** that followed these valleys inland from Maryland, New Jersey, and Pennsylvania. Without extensive mark-release-recapture data, this interpretation is speculative, but seems plausible.

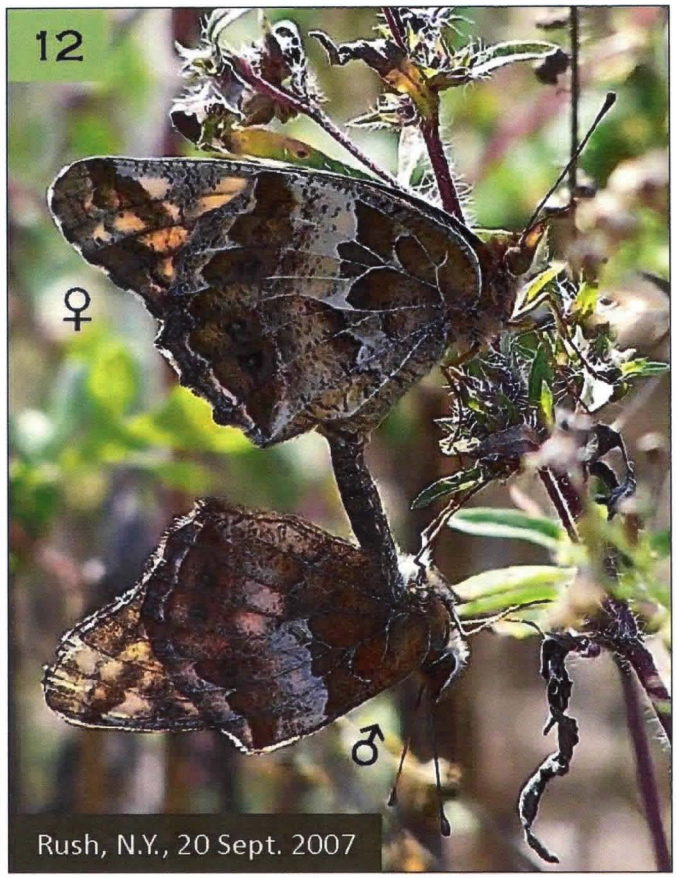
AUTUMNAL MOVEMENTS: Variegated Fritillaries are characteristic members of a highly visible community of butterfly migrants that streams south along the Atlantic shore in September and early October, moving from coastal Massachusetts, Connecticut, and New York across the Cape May peninsula in New Jersey (Figs. 7-8), and thence farther south (*personal obs.*). Accompanying them are myriads of **Monarchs** (*Danaus plexippus*), **Painted Ladies** (*Vanessa cardui*), **American Ladies** (*V. virginiensis*), **Red Admirals** (*V. atalanta*), **Mourning Cloaks** (*Nymphalis antiopa*), **Question Marks** (*Polygonia interrogationis*), **Common Buckeyes** (*Junonia coenia*), **Cloudless Sulphurs** (*Phoebis sennae*), **Orange Sulphurs** (*Colias eurytheme*), **American Snouts** (*Libytheana carinenta*), and **Gray Hairstreaks** (*Strymon melinus*), all moving together, and occasionally stopping to feed at luxurious masses of Seaside Goldenrod (*Solidago sempervirens*, Fig. 8) and garden flowers before moving on. Standing amidst this dramatic autumn exodus is very exciting — in contrast to the much more subtle northward movements of these butterflies in spring. (Exceptions are recent vernal migrations of millions of Red Admirals into the Northeast in 2001, 2010, and 2012, which have been equally thrilling to witness.)

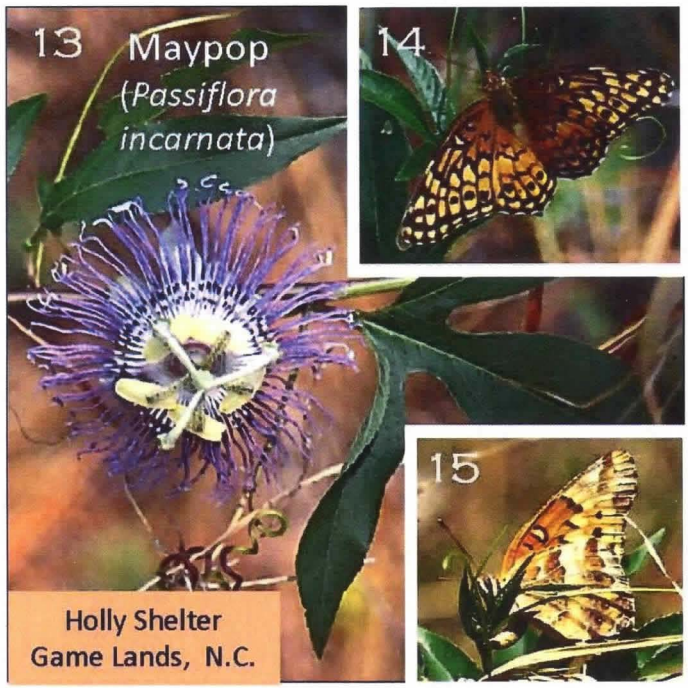
PHENOLOGY: Most adult Variegated Fritillary records from ***western and central New York*** (Fig. 10) are from July to Nov., with only a few in spring. Dates range from 5 May 2012 (Olean), 15 May 2010 (Ithaca), 21 June 1979 (French Woods), 2 July 1880 (Lancaster), and 4 July 2012 (Rush); to 7 Oct. 2010 (Dresden), 10 Oct. 1898 (Ithaca), and 1 Nov. 2007 and 9 Nov. 2011 (Rush). In the Northeast, this butterfly is much more frequent on the ***Atlantic Coastal Plain***, where it has been recorded from 9 May to 6 Dec. in the New York City area (Cech, 1993, Walter, 2015) and between 9 June and 6 Oct. on ***eastern Long Island*** (ROY LATHAM's specimens, collected before 1968, CUIC).

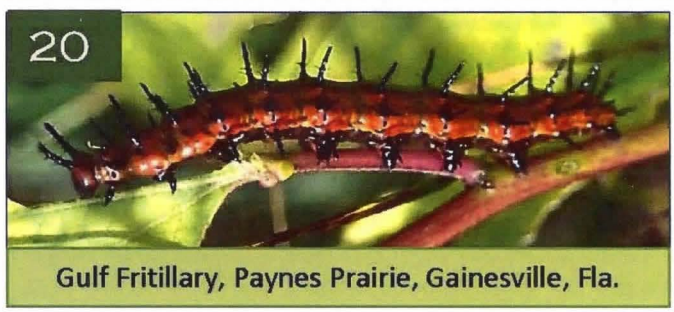
HABITATS, FLIGHT, AND BASKING: At inland New York sites, *E. claudia* flies in old fields, shrubby riverside marshes, on roadsides, over fallow land, and sometimes in flower gardens. The **flight** is a series of quick glides, like the Monarch's, with the wings held at a 135° angle. Adults are wary and difficult to approach; the genus name, in fact, derives from a Greek word meaning "easily frightened" (Opler & Krizek, 1984:130). Adults also **dorsally bask** with their wings flattened against the substrate (Fig. 9).

NECTARING: I have most often seen Variegated Fritillaries taking nectar at composites (Asteraceae), reflecting the blooming prevalence of this plant family during their main immigration season in late summer and autumn. In the following list, the plant family is given for species that are not Asteraceae. Nectar flowers marked with an *asterisk are naturalized non-native or cultivated species. (I have taken this opportunity to include a few observations of nectaring in the Southeast): **Sweet-scented Joe Pye Weed** (*Eutrochium purpureum*) near Salamanca, N.Y. (Figs. 5 & 10); **New England Aster** (*Symphyotrichum novae-angliae*) at Ithaca, N.Y. (Figs. 6 & 10); ***Common Yarrow** (*Achillea millefolium*), **Grass-leaved Goldenrod** (*Euthamia graminifolia*), **Hairy White Old-field Aster** (*Symphyotrichum pilosum*, Fig. 7), and **Seaside Goldenrod** (*Solidago sempervirens*, Fig. 8) at Cape May, N.J.; **Slender Flat-topped Goldenrod** (*Euthamia caroliniana*) and **White-bracted Thoroughwort** (*Eupatorium leucolepis*) in N.J. and at Holly Shelter, N.C.; and ***Oxeye Daisy** (*Leucanthemum vulgare*) in N.C. Additional nectar sources were ***Orange-eyed Butterfly Bush** (*Buddleja davidii*, Scrophulariaceae) at Dresden, N.Y., and in N.J.; **Butterfly Milkweed** (*Asclepias tuberosa*, Apocynaceae) in N.C.; and ***Common Lantana** (*Lantana camara*, Verbenaceae) in S.C. Flower colors of plants listed above are purple, orange, yellow, and white. Opler & Krizek (1984:131), Iftner *et al.* (1992:116), Allen (1997:120), and Nielsen (1999:109) mentioned additional nectar flowers. Nectaring Variegated Fritillaries typically rest with their wings open to ca. 135° (Figs. 6 - 8), but occasionally to









Variegated Fritillary Life History in New York and North Carolina

Wild larva on cultivated *Passiflora incarnata* at Ithaca, N. Y. (***11***). A fresh mated pair at Rush, N.Y., 20 Sept. 2007, showing their elegant ventral camouflage, *photo by Carol Southby* (***12***). Wild *Passiflora incarnata* foodplant in N. C. (***13***), a female that was laying eggs on it (***14-15***), and reared final-instar larva (***16***) and pupa (***17-18***). Posterior-dorsal view of a greener pupa, formed by an Ithaca larva (***19***). A wild, final-instar Gulf Fritillary (*Agraulis vanillae*) caterpillar on Maypop, for comparison (***20***).

180° or even 190°, ♀♀ sometimes fluttering the while; but one ♂ fed with closed wings (Fig. 5).

LARVAL FOODPLANTS: The Variegated Fritillary may reproduce in New York in years when ♀♀ arrive early in the season. Forbes (1928:683) reported larvae on cultivated ***Pansies** (*Viola* × *wittrockiana*, Violaceae) in Brooklyn, Kings County, and Saunders (1932:162-163) observed a ♀ landing on **wild violets** (*Viola* sp.) in Cattaraugus County, N.Y., on 24 July 1931. My brother MATTHEW F. DIRIG (*verbal comm.*) observed two ragged ♀♀ fluttering over native **violet** leaves in

"*foodplant search mode*" on 25-26 July 1981, along a forest ecotone near the Delaware River corridor at French Woods, Delaware County, N.Y., at the southwestern corner of the Catskill Mountains. The larval host at Rush, Monroe County, may be **Field Pansy** (*Viola bicolor*, which has also been called *V. kitaibeliana* & *V. rafinesquei*), a rare native annual violet that occurs at the site (Southby, 2011; Carol Southby, *email*, 14 Feb. 2015). Wild larvae were found in southern Ontario (Hall, 2013:30), Connecticut (O'Donnell *et al.*, 2007:222), and Massachusetts (Dodd, 2014) on **violets**. JOHN F. CRYAN (*verbal comm.*, 2001) has also found wild *E. claudia* larvae feeding on **violets** in open fens at Montauk, Suffolk County, N.Y., since 1983, and stated that this butterfly became an "*irregular breeder on eastern Long Island every year*" in the 1990s. Several other plants that have provided food for the larvae elsewhere (Scott, 1986) might also serve in the Northeast, among them **Mayapple** (*Podophyllum peltatum* L., Berberidaceae), **Canada Moonseed** (*Menispermum canadense* L., Menispermaceae), and **plantains** (*Plantago* spp., Plantaginaceae) in the wild; and **passionflower** (*Passiflora* spp., Passifloraceae) and **Portulaca** (*Portulaca grandiflora*, Portulacaceae) in gardens. In fact, LENORE & VERN DURKEE found a dozen wild, final-instar larvae on cultivated **Maypop** (*Passiflora incarnata*) in their Ithaca, N.Y., garden on 2 Sept. 2009 (Figs. 10-11).

LIFE HISTORY (Figs. 11-19): Fig. 12 shows a beautifully camouflaged **mated pair** of fresh adults with closed wings, at Rush, N.Y., on 20 Sept. 2007. A ♀ Variegated Fritillary laid eggs on *Passiflora incarnata* (Figs. 13-15) in an open pine savannah at Holly Shelter in Pender County, N.C., on 11 June 2002. The butterfly flew slowly from vine to vine, often opening her wings to ca. 110° while laying. The glistening pale yellowish-white **eggs**, placed singly on tendrils and growing tips, were gumdrop-shaped, with a honeycombed surface between numerous vertical ridges, and hatched in 5 days. As the larvae developed within, the tops of the eggs turned dark.

Newly hatched **larvae** were 1/16 in. (1½ mm) long, with shiny black heads and spiny light brown bodies, darker posteriorly. They turned black after feeding. Larvae mostly ***fed nocturnally***, but occasionally nibbled leaves during the daytime. After 16-20 days of feeding on violet leaves and flowers, the ***final instar larvae*** (Fig. 16) were 1 5/8 in. (38-40 mm) long and ¼ in. (5 mm) thick, with an orange-and-black face cap and glossy red-orange body, longitudinally marked with a mid-dorsal line of small, oval, white, black-edged spots, and broad black, white-marked bands on either side of the dorsum, and above and below the black spiracles. The legs and prolegs were black, the venter dark brown, and the six longitudinal rows of 1/8-in.(3-mm)-long spines black or steel-blue, with dark bristles and sparkling cornflower-blue accents at the base, the forward-arching, slightly bulbous-tipped anterior pair 5/16 in. (7-8 mm) long. Larvae were ***frass-flingers***, like some skippers! Apparent ***warning colors*** (red-orange, black, white, and reflective metallic blue) of the larvae, pupae, and perhaps the adults may speak the truth if the foodplant is *Passiflora*, which causes unpalatability in heliconians. *Euptoieta claudia*'s caterpillars resemble those of the Gulf Fritillary (*Agraulis vanillae*), which feed on the same passionflower in Florida (Fig. 20).

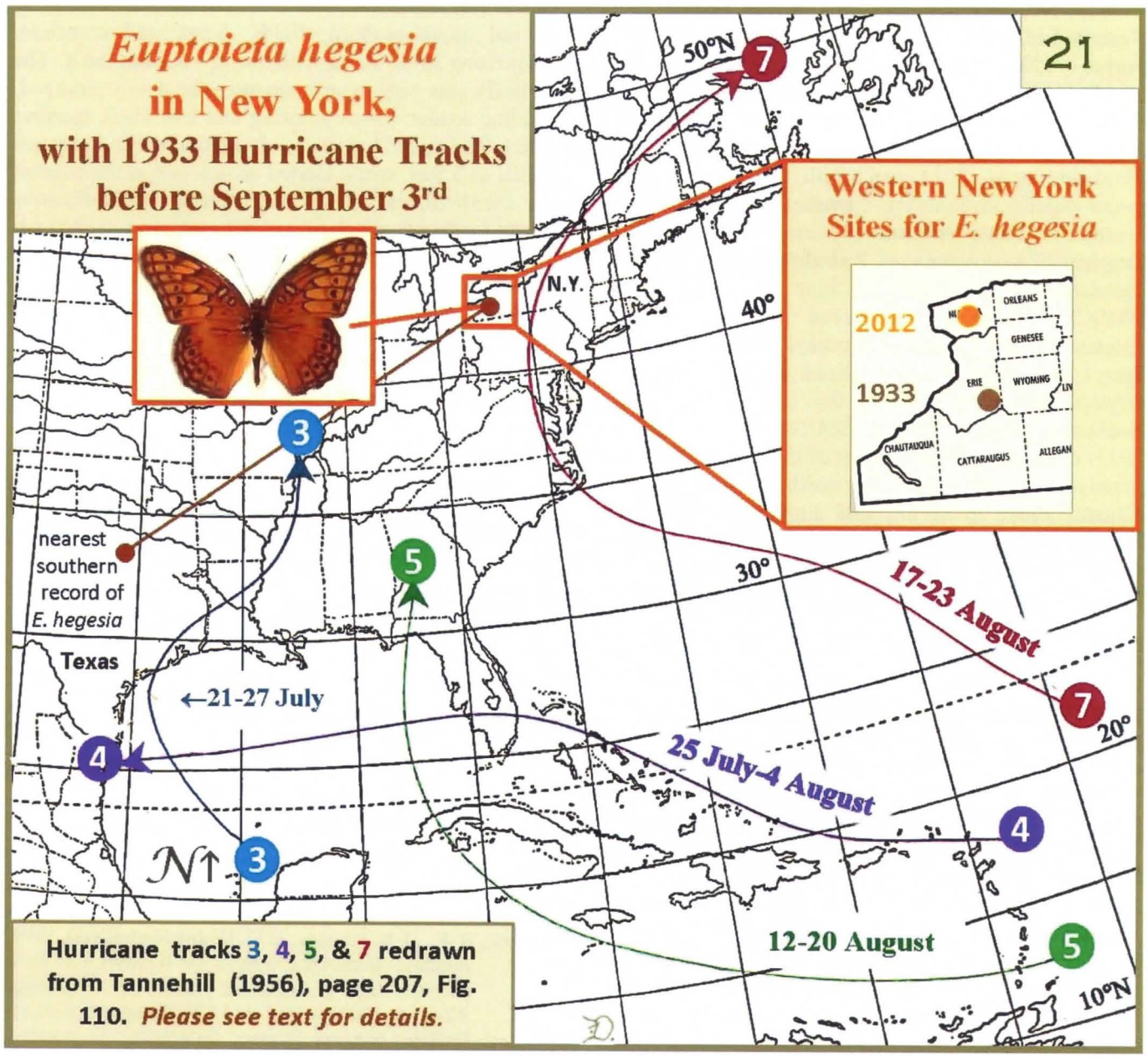
The resplendent **chrysalids** (Figs. 17-18) recalled those of the Painted Lady (*Vanessa cardui*) in size and shape, and hung from a white silk pad for 6-8 days; were ¾ - 7/8 in. (18-22 mm) long and ¼ in. (6-7 mm) thick, pale bluish or silvery white (Figs. 17-18) to chrysoprase or pale jade-green (Fig. 19) in color, with orange-and-black markings. Dorsal thoracic and abdominal conical tubercles had a silvery gloss, glittering like diamonds in a yellow-gold setting, with a mother-of-pearl luster that is difficult to describe or capture in photographs. ***Hanging pupae arched the venter 45° forward, toward the substrate.*** A chrysalis formed inside a weak nest, made of a rolled violet leaf held with white silk threads, was darker green with heavier markings. A "wild" pupa formed on a shaded house foundation in Ithaca, N.Y., was also dark green (Fig. 19). Meconium shed by emerging adults was red. ***Stage duration***: egg (5 days), larva (♂ 16 days, ♀ 17-20 days), pupa (♂ 6 days, ♀ 5-8 days), giving a ***generation time of 26-33 days***, with ♂♂ emerging slightly earlier than ♀♀.

DISTRIBUTIONAL CONTEXT: *Euptoieta claudia* is ***resident*** from coastal North Carolina to Florida, the Gulf States, and Texas, west to California; thence south through the Antilles and Neotropics to Argentina, especially at higher elevations (Scott, 1986:336). Adults move north into the United States and Canada in spring (and their progeny migrate south in fall), regularly reaching the Northeast, particularly on the Atlantic Coastal Plain, but less often inland; and penetrating to the Northwest Territories in Canada (Scott, 1986, Layberry *et al.*, 1998). This butterfly is also found in southwestern Ontario, especially north of Lake Erie (Hall, 2013) and Lake Ontario, thence rarely eastward along the St. Lawrence River into southern Québec (Worthington, 1983, Holmes *et al.*, 1991, Layberry *et al.*, 1998). A resident colony successfully passed the winter on Ile-d'Orléans near Québec City between 1988 and 1997 (Layberry *et al.*, 1998:167), a seemingly remarkable event that far north. Adults evidently ***hibernate*** in frost-free regions (Cech & Tudor, 2005:157); but two reared ♀♀ that were placed overnight in my 3°F. freezer were alive the next morning — implying the ability to survive at least short periods of cold winter weather.

CORRIDORS OF COLONIZATION

The Erie-Ontario Lake Plain (Fig. 10) is a major migratory pathway for birds (Bull, 1985: 30), as well as an important route for immigrating butterflies in western New York.

A number of unusual lepidopteral strays and vagrants from the South, Midwest, Mississippi drainage, West, and Southwest have been recorded in this region. In addition to the **Mexican Fritillary**, these include the **Florida White** (*Glutophrissa drusilla*: Lancaster, Erie County, 22 Sept. 1880 (Van Duzee, 1891:108, as *Pieris ilaire*); **Large Orange Sulphur** (*Phoebis argarithe*): Letchworth State Park, Livingston County, 9 July 1995, ANNE CLARRIDGE & NANCY MILLER (color photos in [Glassberg] 1995:31); **Mallow Scrub Hairstreak** (*Strymon istapa*): 17 miles south of Buffalo, along a railroad near Aurora, Erie County, 13 July [ca. 1874], OTTOMAR REINECKE (Grote, 1874:179 & Lintner, 1875:141, as *Callicista ocellifera*; Scudder, 1889:1820, as *Callicista columella*; Van Duzee, 1891:111, as *Thecla columella*; Shapiro, 1974:15, as *Strymon columella*); **Florida Duskywing** (*Ephyriades brunnea*): Hamilton, Ontario, 1877, J. A. MOFFAT (Lintner, 1881; his holotype of the synonym *Eudamus electra* Lintner, at the Carnegie Museum of Natural History in Pittsburgh, Pennsylvania, proposed in that paper, constitutes a ***specimen record of* E. brunnea, *a new butterfly species for Canada!***); **Long-tailed Skipper** (*Urbanus proteus*): along Lake Ontario at Hamlin, Monroe County, 10 Aug. 2012, photo, ANDY GUTHRIE (Steven Daniel's *NYSButterflies* post of 10 Aug. 2012); **Marine Blue** (*Leptotes marina*): Langford, Erie County, 25 July 1993, R. F. ANDRLE, specimen in the Buffalo Museum of Science (BMSC — Gall & Andrle, 1994); and



California Tortoiseshell (*Nymphalis californica*): Griffin's Mills, Erie County, July 1890, J. P. WILLS (Van Duzee, 1891:109, Wild, 1939:39), and Sardinia, Erie County, at stale moth bait in the daytime, 4 Aug. 1932, L. R. RUPERT, in CUIC (Wild, 1939:35, Forbes, 1960:160, Shapiro, 1974:12, Scott, 1986:290). Two large, tropical owlet moths (Erebidae) that occasionally stray north have also been recorded several times from this corridor: the **Owl Moth** (*Thysania zenobia*): Buffalo, and Ridgeway, Ontario (Van Duzee, 1891:144), and St. Catharines, Ontario, EARL G. BAILEY, 7 Sept. 1968, *letter, 25 Sept. 1968*); and the **Black Witch** (*Ascalapha odorata*): Buffalo, Angola, Niagara Falls (Van Duzee, 1891:144, as *Erebus odora*). Of these, the **Mexican Fritillary** is one of the farthest from its center of abundance.

More familiar, shorter-distance immigrants, presumably from the Midwest, that have been recorded on the ***Erie-Ontario Lake Plain*** in New York by Van Duzee (1891), Forbes (1928), Wild (1939), Shapiro (1974), and Andrle *et al.* (1999) are: **Variegated Fritillary**, **Pipevine Swallowtail** (*Battus philenor*), **Giant Swallowtail** (*Papilio cresphontes* — see Dirig, 2008, 2009, Finkbeiner *et al.*, 2011, and Smith, 2012, for its recent range expansion context), **Checkered White** (*Pontia protodice*), **Little Sulphur** (*Pyrisitia lisa*), **Cloudless Sulphur** (*Phoebis sennae*), **Zabulon Skipper** (*Poanes zabulon* — a ♀, Buffalo, 12 June 1892, P. FISCHER, BMSC), **Common Checkered Skipper** (*Pyrgus communis*), and **Common Buckeye** (*Junonia coenia*). Strays and summer colonizations of **Fiery Skippers** (*Hylephila phyleus*) during the last 15 years near Rochester (Southby, 2011; C. SOUTHBY, *email, 2 March 2015*) echo this pattern. Most of these butterflies also populate the guild that moves north along the ***Atlantic Coastal Plain*** in spring and summer to reach the Northeast, where they may move inland along corridors of the Susquehanna, Delaware, and Hudson Rivers and their tributaries (and other rivers in New England).

However, it seems likely that the **Mexican Fritillary** collected at Chaffee by FRANCLEMONT in September 1933 arrived by a different route: According to Tannehill (1956:206-207) in his book on hurricanes, "*the number of tropical disturbances charted* [in 1933] *was the greatest within the known history of the New World.*" Of ten storms mapped before 3 Sept. that year, **number 7** (of 17-23 Aug., also known as the **1933 Chesapeake-Potomac Hurricane**) closely approached western New York; and **numbers 3** (of 21-27 July), **4** (of 25 July to 4 Aug.), and **5** (of 12-20 Aug.) crossed the Caribbean and Gulf of Mexico, blowing inland to the Gulf Coast and lower Midwest (Fig. 21). In his general summary of New York weather for August 1933, Fisher (1933: 57) added: "[*D*]*uring the period August 22-24 heavy rains occurred over most of the State, resulting from a tropical storm* [**number 7** above and in Fig. 21] *that came inland near Norfolk, Va., and then moved northward across Pennsylvania and New York.*" This Mexican Fritillary may have been carried north by the storm, settled somewhere in northwestern Pennsylvania or western New York, and moved about for a few days, before ending up in Chaffee — where 82 years ago, on a sunny, warm (78°F), late summer day (Fisher, 1933), during a family picnic on Labor Day weekend, it was netted in an oat field by an ardent 21-year-old lepidopterist, and later immortalized in a museum!

EPILOGUE

A second record for *Euptoieta hegesia* was reported from "Hall's trail west" in **Lockport, Niagara County, N. Y.**, 42 miles north of Chaffee (Fig. 21, *inset*), on **9 September 2012**, by FRED BOWER (Mello, 2013:152). Bower (*verbal comm.*, Feb. 2015) described "Hall's" as an old apple orchard, fields, pond, and cornfield, comprising 20-30 acres, with tractor trails around it. The butterfly was very fresh, seeming to be newly emerged, and had redder dorsal coloring and less black spotting than a Variegated Fritillary. It maintained an approach radius of 3 feet, while landed on wet soil at the edge of the cornfield, and flew very rapidly when flushed. Seven-tenths of an inch of rain fell, and winds gusted 34-55 mph on 8 September 2012 (Weather History, 2012); but as no dramatic weather event accompanied this occurrence, it might be better attributed to late-season wandering, or global warming.

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(Robert Dirig, Plant Pathology Herbarium, Cornell University, Ithaca, NY 14853. E-mail: red2@cornell.edu)

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DO YOU HAVE A SPARE $64,000 ?
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A copy of the only published work of John Abbot (1751 - ca.1840) with Sir James Edward Smith (1759 - 1828) is on sale in London by Shapero Rare Books for $64,000. The title of this work in two volumes is "*The Natural History of the Rarer Lepidopterous Insects of Georgia: Including Their Systematic Characters, the Particulars of Their Several Metamorphoses, and the Plants on Which They Feed. Collected From the Observation of Mr. John Abbot, Many Years Resident in That Country*".

These two volumes (a Hardcover First Edition) by John Abbot (artist), and Sir James Edward Smith (author of text) were published by London T. Bensley for J. Edwards Cadell and Dabies and J. White in 1797. This work contains 104 hand-colored etched plates.

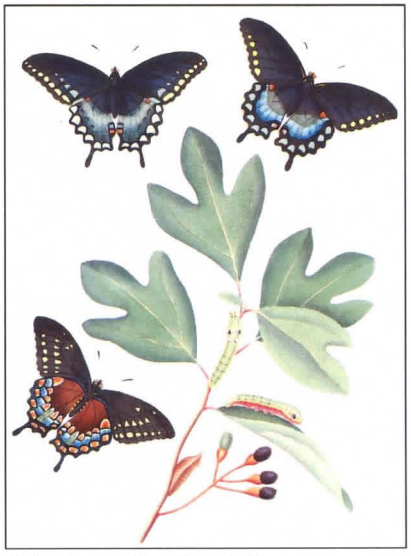
A bargain at this price!!

Reference

1) http://en.wikipedia.org/wiki/John_Abbot_(entomologist)

Please Note: Shipping to the US will be an additional $14.81.

[Hank Leibee (SLS member and my roommate in college) called my attention to this bargain!! The Editor]



Spicebush Swallowtail, *Papilio troilus* on Sassafras, *Sassafras albidum* (hostplant) (a hand-colored engraving) [1]

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A SURVEY OF WINTER FLYING *SYNANTHEDON SAPYGAEFORMIS* IN WESTON PARK, FLORIDA

BY

F. MATTHEW BLAINE

Abstract

I have been studying the occurrence and diversity of Sessid Moths in Sussex County, Delaware, for several years. My studies are conducted in the spring, summer, and fall. However, I have not collected there in the winter due to the low temperatures (mean winter temperature 36.3°F with lows dropping below 0°F). As a result of the low temperatures, the plants and trees that these moths visit go dormant or die in the winter.

In the winter of 2013 – 2014 I was lucky enough to be able to stay in Melbourne, Florida. I decided to take advantage of this opportunity and to collect and identify as many species of Sessid moths as possible in that period of time. This paper is a result of information gleaned from that survey.

Description of the study area

Weston Park is a small housing development in north Melbourne, Florida, which is located in Brevard County. The development was started in 1987 and the houses there have well established lawns, shrubs, and trees. It is also located just a short distance south from Wickham Park which up until recently had a large area of undisturbed Florida habitat. It consisted of long needle pine, Palmetto, grasses and assorted indigenous plants.

The exact location of this study is N 28 09 307, W 080 39 830. It is about 1 mile due west of the Indian River Lagoon.

The study area is a landscaped lot slightly larger than one quarter of an acre. The landscaping consists of Bermuda grass, Rubber trees, citrus trees, palm trees, banana trees, bamboo, ornamental plants, and flowers including many *"butterfly friendly"* plants. There is a brick home in the center of the property. The adjoining properties are similar and have less decorative plantings. The one property immediately to the west does have five established live oak trees and several other large, established, deciduous trees.

Fig. 1. Great Lakes IPM Universal pheromone moth trap (Green #IPS G004)

Methods and Materials

Traps were set up around the study area. They included four pheromone traps, one UV light trap, and one fruit bait trap. Out of the four pheromone traps, two were Great Lakes IPM Universal pheromone moth traps (Green # IPS G004). Two were my own design traps using recycled plastic bottles and jars for construction. All four pheromone traps were set up at various places around the study area as well as one UV light trap and one fruit bait trap.

I used one trap with two lures of L103 Pheromone, one with two lures of LPTB pheromone, and the other two traps had Weevil Pheromones. All pheromone lures were purchased from Great Lakes IPM (Fig. 1)

Traps were monitored daily and accurate records were kept on a daily basis of the Sessidae caught.

Specimens were spread and labeled with appropriate collection data on insect pins and identified.

A review of the available literature was conducted.

Results and Discussion

The study time lasted from November 1, 2013, to March 20, 2014, a total of 140 days. A total of 421 Sessid moths were caught. Out of those 417 were identified by me as *Synanthedon sapygaeformis* (Fig. 2). The remaining 4 were two different species. No Sessid moths were caught in the bait trap, UV trap, or the Pheromone traps baited for weevils. All *S. sapygaeformis* were caught in the trap baited with L103 lure. The remaining four Sessid moths (4 individuals) were caught in both L103 and LPTB baited traps.

Fig. 2. *Synanthedon sapygaeformis*

S. sapygaeformis is described as being primarily from Florida with a few records in Texas and one in Georgia (Fig. 3).

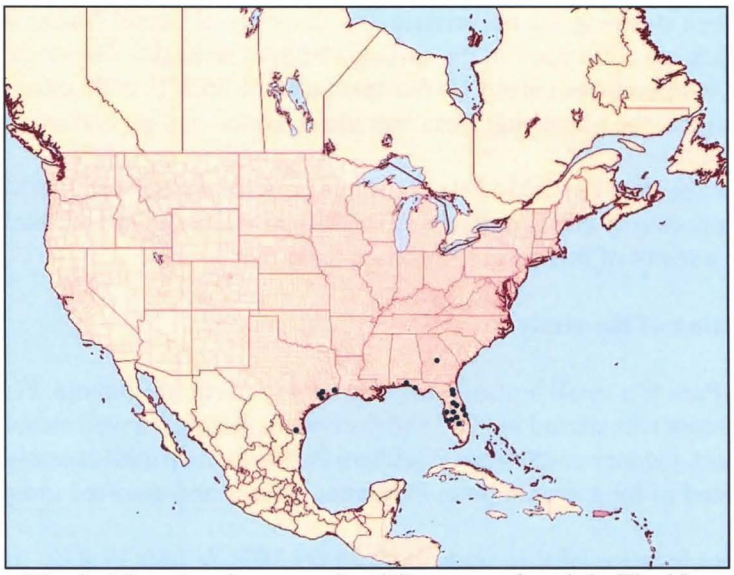

Fig. 3. Map showing records of *S. sapygaeformis* in Florida, Texas and Georgia.

The months of February and March had the highest numbers recorded. February had a total of 152, and March (from the 1st - 20th) had a total of 200. However, *S. sapygaeformis* was present through the winter months in Melbourne, Florida.

S. sapygaeformis was the dominant Sessid moth found in winter months in Melbourne, Florida (Fig. 4).

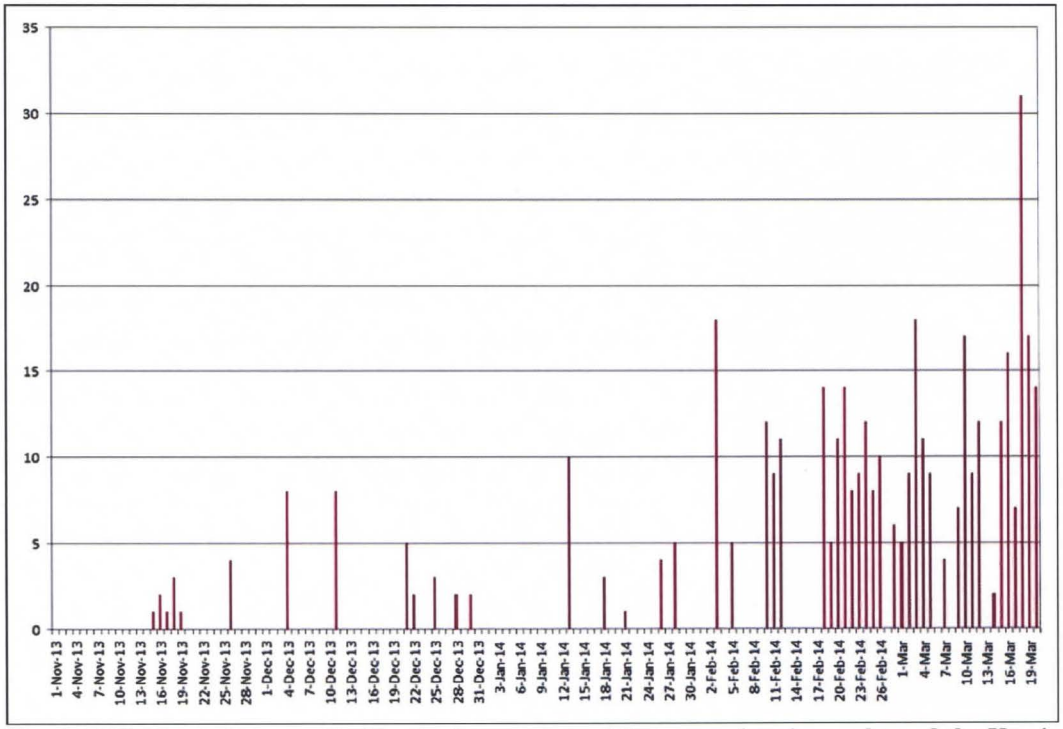

Fig. 4. This chart shows on the Y axis, the number of *S. sapygaeformis* caught and the X axis shows the date caught. The X axis dates are in three day intervals for the duration of the study.

Fig. 5. *S. sapygaeformis*: 197 delivered to the McGuire Center February 27, 2015, from this survey.

In the winter of 2014-2015 I also collected using the same pheromone traps and found *S. sapygaeformis* present in similar numbers. I was not able to keep daily records in that time period due to the many trips that I took but I did see a similar continuous presence of *S. sapygaeformis*.

One hundred and nineteen of the specimens caught in this survey have been delivered to the McGuire Center for their collection (Fig. 5).

Acknowledgements

I would like to thank Vernon Antoine Brou Jr. for sharing much information on trap construction, pheromone selection, suppliers, a variety of his publications, and much more.

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Research Associate, The McGuire Center for Lepidoptera and Biodiversity at the Florida Museum of Natural History, University of Florida)

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NEW RECORD FOR LUBBOCK COUNTY, TEXAS
SYSTASEA PULVERULENTA

***S. pulverulenta* (Dorsal)**

***S. pulverulenta* (Ventral)**

On April 21, 2015, *Systasea pulverulenta* was collected at Buffalo Springs Lake which is approximately 4 miles east of Lubbock, Texas. In 42 years of collecting in the Lubbock area of West Texas this is the first *S. pulverulenta* that I have observed. This specimen is a new record for Lubbock County.

[My thanks to Ed Knudsen for confirming the identification.] [The Editor]

NEW LOUISIANA STATE RECORDS FOR A DISTINCTLY WESTERN U.S. MOTH

BY

VERNON ANTOINE BROU JR.

Fig. 1. ***Anarta mutata***, male
Louisiana, St. Tammany Parish, Abita Springs,
2011 October 26, CNCLEP_00113681

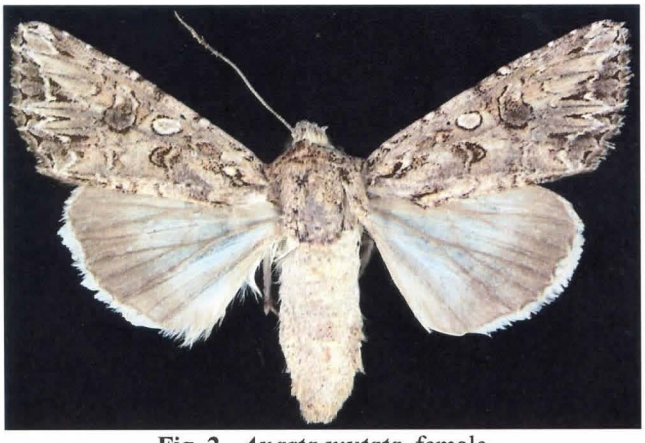

Fig. 2. ***Anarta mutata***, female
Louisiana, Iberville Parish, Sunshine, 1972 March 18.

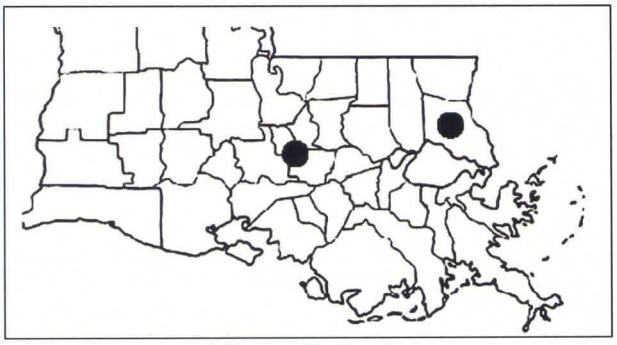

Fig. 3. Parish records for ***Anarta mutata*** in Louisiana.

A fresh example of the distinctly western U.S. moth ***Anarta mutata*** (Dod, 1913) (Fig. 1) was captured 26 October, 2011 in an ultraviolet light trap at the *Abita Entomological study site, in eastern Louisiana. This specimen appears to be a male.

Documented records for ***mutata*** occur across western North America: California, east to west Texas, and north to southern portions of British Columbia, Alberta, Saskatchewan, and Manitoba. Powell and Opler (2009) did not mention this species, but do cover the similar appearing and more widespread ***Anarta trifolii*** (Hufnagel, 1766). The range of ***trifolii*** includes most of the states east coast to west coast and likewise east coast to west coast across Canada. Neither of these two species of ***Anarta*** were addressed in Covell (1984).

Surprisingly, I have a second specimen of ***mutata***, a female, which had remained misidentified as ***Anarta trifolii***, among my material since its capture. That specimen was captured 43 years earlier in an ultraviolet light trap operated in south-central Louisiana, and is illustrated in Fig. 2.

I thank J. Donald Lafontaine for recognizing and determining both specimens of ***mutata*** from my collected material.

The parish records for ***Anarta mutata*** are illustrated in Fig. 3.

*Abita Entomological Study Site: sec.24,T6,SR12E, 4.2 miles NE of Abita Springs, St. Tammany Parish, Louisiana, USA

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(Vernon Antoine Brou Jr., 70420 Jack Loyd Road, Abita Springs, Louisiana 70420; E-mail: vabrou@bellsouth.net)

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MY EXPERIENCES WITH BUTTERFLY IMAGERY IN CONTEMPORARY INDIGENOUS CULTURES
PART 2: ZUNI TRIBE OF NEW MEXICO

BY
GARY NOEL ROSS

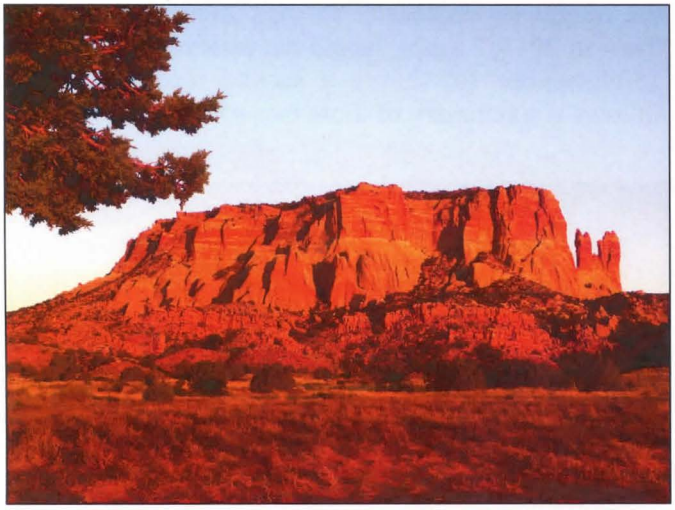
In the spring issue of the Southern Lepidopterists' Society NEWS (Vol. 37:1) I chronicled many of my early experiences (1970s-1980s) with the butterfly image in several contemporary Mesoamerican cultures. I now would like to document my more recent involvement with the Zuni Tribe in the state of New Mexico, U.S.A.

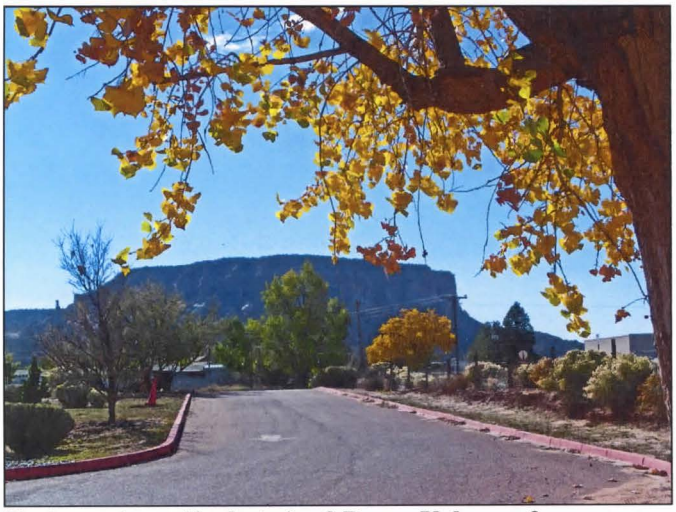
My introduction to the world of the Zuni dates back to 2003. Robert Sherman, a Baton Rouge friend who had just returned from an environmental work project in northern New Mexico, shared with me photographs he had taken of several medium-size paintings featuring "butterfly maidens" — humans with butterfly wings. The images were so realistic and dramatic that I could only conclude that the painter—Edward Lewis—had to be a master artist. Robert had also collected several stone carvings of stylized butterflies that he called "fetishes." All were created in Zuni, a community in the heart of the Zuni Tribe and the prescribed Zuni Indian Reservation. (Being a lepidopterist and an ethnobiologist I have learned that diverse peoples throughout the world share an inordinate interest in butterflies. The Zuni are no exception.)

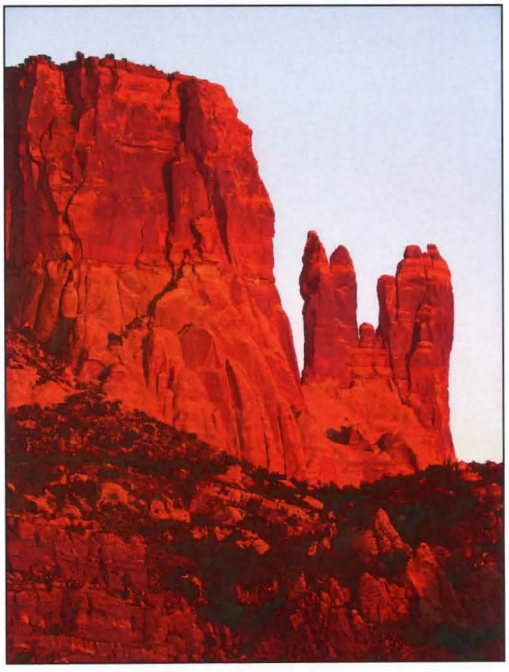
In 2006, I embarked upon an extended road trip through the Southwest especially to visit Zuni (July 14-20). Then in 2014, I again visited the reservation (October 15-November 10) during a second road trip. What follows is a summary of those two adventures.

The setting sun casts a red wash upon the western façade of Dowa Yalanne (Corn Mountain) as the moon rises. The mountain is a sandstone mesa that rises 1,000 feet above the valley floor in the heart of the Zuni Indian Reservation located in northern New Mexico. The mesa is sacred to the Zuni Tribe.

Zuni, or more officially, the Pueblo of Zuni (historically, *Halona Idiwan's*) is located within the dedicated Zuni Indian Reservation—primarily within McKinley County in northwestern New Mexico. The Pueblo and its neighboring satellite community of Black Rock are about 37 miles south of Gallup and 11 miles east of the Arizona border. (The reservation is independent and encircled by the sprawling Navajo Nation.) This is a part of the United States where the landscape vibrates with colors and textures. At an elevation of 6,309 feet, the reservation is relatively small, spreading across about 400,000 semi-arid acres that ecologically is a piñon pine-juniper (cedar) woodland; average annual rainfall is approximately12 inches, the majority falling between July and September. Most of the pueblo lies in a flat valley that is punctuated with table-topped monolithic outcrops, aka, mesas. The closest and most poignant of these is *Dowa Yalanne*. Geologically, *Dowa Yalanne* is a thousand-foot high mesa of sandstone rocks dating back to the Triassic and Jurassic periods (the Age of the Dinosaurs). The formation is oriented in a more or less northwest to southeast direction. At sunset when the western façade is bathed in a red glow, *Dowa Yalanne* bears a decided resemblance to *Uluru* ("Ayers Rock") a popular red monolith in the Northern Territory of Australia. For the Zuni people, the mountain is considered sacred and historically important. It, for instance, has served in mythological history as a refuge from floods and in more recent history from invasions by the Spanish and neighboring Apache. Today *Dowa Yalanne* has become the emblem that identifies the Zuni Tribe. The mesa is holy ground and off limits to non-Zunis.



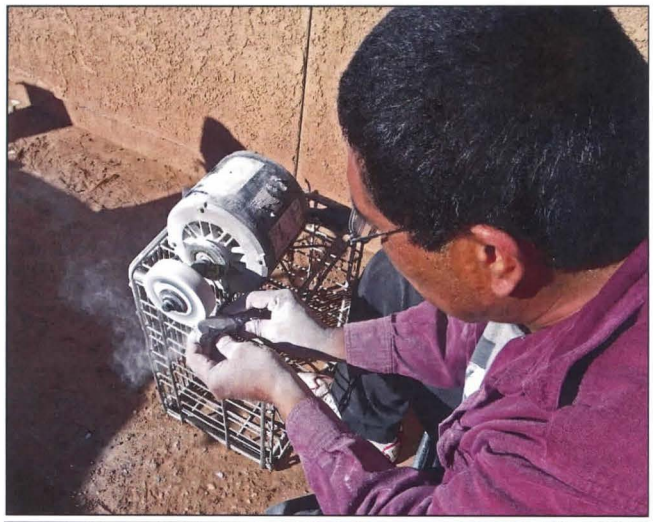




Various views (4 photos) of Dowa Yalanne from venues between the Pueblo of Zuni and the suburb of Black Rock.

The Pueblo is an artist colony. A whopping 80-90 percent of families are active in creating distinctive arts and crafts. Genres include pottery, silverwork (often with detailed inlays of lapidary stones), Kachina dolls (small wooden carvings representing ancestral spirits), paintings on canvas, wood, stone, or drum surfaces, beadwork, and cotton weavings such as belts, sashes, and mantas (shawls). Of all their handiwork, however, Zunis are most renowned for their fetishes. These are

small carvings in various media that function as a spiritual charm or talisman and have no relationship to erotic objects often labeled by outsiders with the same name. Because all wild animals are believed to be



Anthony Mecale working at a portable bench saw and polisher, standard electrical equipment for working stone.

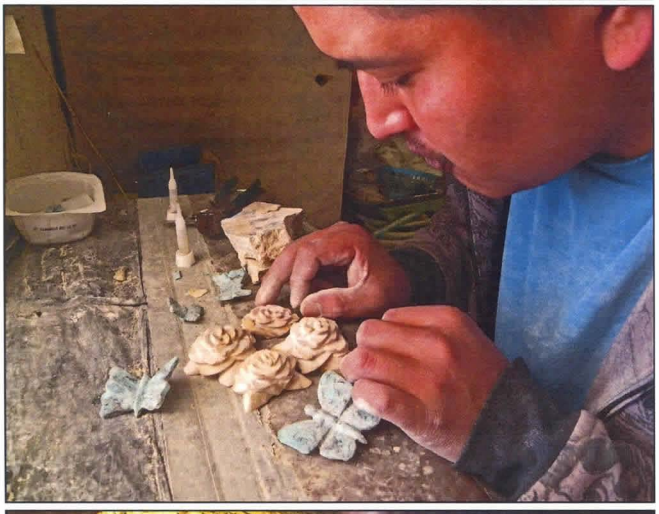
endowed with a spiritual nature, subject matter is virtually boundless. Fetishes are believed to convey luck, power, protection, and good health to their owners. Put simply, fetishes are viable spirits in stone, and as such, valuable assets to human beings. And although most Native American cultures throughout the Southwest have traditionally carved fetishes, the Zunis of northwestern New Mexico remain preeminent.

Zunis recognize two types of fetishes: "ceremonial" or "true" fetishes, and "commercial carvings." The ceremonial fetish has flourished since far back in time. According to oral tradition, this type of fetish has always been blessed by a spiritual leader of the tribe. Because these objects serve different religious or magical purposes, they must be respected with dignity. These are tribal assets and except under unusual circumstances, should not be given or sold to outsiders.

Consecrated fetishes may be either of a personal or communal nature. If the fetish is of a personal nature, for instance, it is worn or carried in its own pouch. Too, it can be kept in a container that is placed on a mantle, in a curio cabinet, and even in the glove compartment of a vehicle. On the other hand, if the fetish is of a communal nature, it is reserved for a sacred tribal ceremony and is frequently shared with other tribesmen. Such sacred fetishes are housed in a special "fetish pot"—a storage jar or open bowl, for examples. Ceremonial fetishes are periodically "fed" traditional blue corn meal. Gifts such as crushed turquoise and coral are often presented, too.

By contrast, if a fetish has not been blessed, it is more properly termed a "carving." It is regarded as an objet d'art, that is, a collectible that can be given or sold to an outsider. However, the term "fetish" is frequently generalized to include any type of small animal carving. And while the Zuni produce other forms of art and crafts, the commercial fetish has recently surged in popularity, becoming the paramount object of desire by outsiders.

Turns out that Edward Lewis, the artist whose paintings my friend Robert had originally showed me, was not only a preeminent painter but also a respected spiritual leader—a distinguished role in a culture that is circumscribed by age-old traditions of spirituality and mythology. The Zunis often characterize their landscape as a "church, cathedral." Under Edward's tutelage, I learned that "Butterflies are one of several insects that are significant to our beliefs and culture. We Zunis believe that butterflies are earthly representations of Butterfly Maiden (*Bu:lak'kya E:lash'dok'ee*). It is Butterfly Maiden who brings the rain—the life blood—to our village. The butterfly's metamorphosis is relevant to our beliefs in how we came into this world." He added: "The idea of painting butterfly maidens came to me when one day in mid school, I was outside eating lunch and I saw two butterflies chasing each other around a flower. My favorite species are the tiger swallowtail and monarch although I sometimes use the queen and mourning cloak as well. These are fairly common here on the reservation. I use a butterfly picture book as a guide for painting details of the butterflies." I learned also that the butterfly is a "power animal," that is, a spiritual helper, companion, and guide that possesses qualities humans need in this world. Butterflies, for example, represent beauty, balance, change, transformation (including healing), movement, and air. Butterflies are endearingly referred to as "dancing flowers" and "air dancers." According to Zuni tradition, anyone who embraces the butterfly as a personal spirit usually exhibits a heightened sensitivity (including the wisdom to recognize when others are in a process of transformation). "Butterfly People" are noted for being charming, successful in business and love, and



Enrike Leekya working to construct a multi-figure "fetish sculpture."

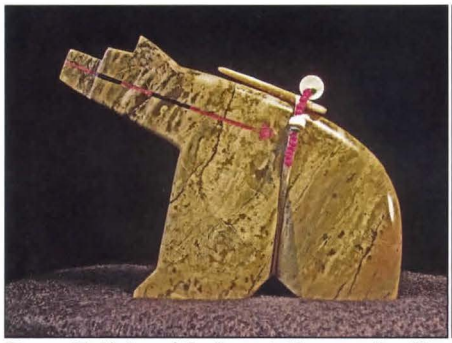
sensitive to air quality. All in all, Zunis believe that butterflies make us feel better and make us better people.

Edward was eager to introduce me to his world. I learned that Zunis possess an extraordinary knowledge of and appreciation for nature and all wild creatures. Put another way, "To the Zunis, the landscape is considered a spiritual relative and thus is cared for with reverence, because it provides the physical setting within which Zuni religion is grounded" (see References: Ferguson & Hart). Therefore Zunis take great pleasure in carving representations of life. Large power animals such as bear, bison, mountain lion, wolf, turkey, elk, raven, owl, and eagle are extremely common. "Ah," remarked Edward, "but butterflies are particularly adored." I learned, too, that there is even a lexicon of exotic animals: moose, dolphins, elephants, dragons, dinosaurs, and monkeys—all copied from photographs in magazines and books. An individual carving is an expression of personal imagination and interest. Given that each is handcrafted without a blueprint, no two carvings are alike.

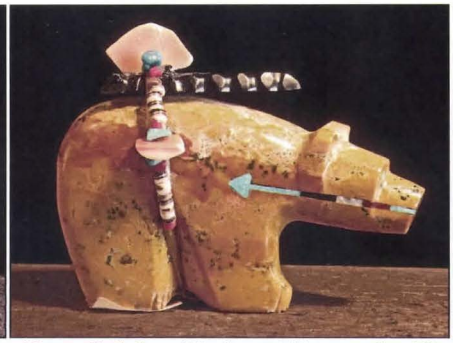
Stones are purchased from a trading post in Zuni or distributors in nearby Gallup or even as far away as Albuquerque and Santa Fe. Common varieties include serpentine, alabaster, South Dakota pipestone, jet, turquoise, malachite, lapis lazuli, Picasso marble, black marble, Mexican onyx, dolomite, travertine (especially a local variety called "Zuni stone" that exhibits many distinctive pale hues and that is hand-dug from several nearby mountain sites, including *Dowa Yalanne*), amber, exotic shells, corals, antlers of deer, elk, and moose, fossilized walrus ivory—and even unusual stones from distant parts of the globe are purchased from traveling traders. Turquoise, a stone that mirrors the sky in these semi-arid lands, is usually the most revered and expensive; it defines both Zuni and Navajo culture. (The color of turquoise is so revered by the Zunis and their Navajo neighbors that the county's emergency vehicles—fire and EMS trucks—are painted blue and white rather than the traditional red and white.) Often bits of turquoise and other stones and shells (occasionally even diamond chips) are inserted as inlays to further adorn the carving.

Enrike Leekya adding colorful inlays such as red coral to the "fetish sculpture."

Carvers are constantly on the lookout for unusually colored stones. In fact, the stone and its inherent qualities are almost as important to the overall fetish as the actual carving. A skilled craftsman can manipulate a stone in such a way as to reveal patterns that are



Bear Fetish with heart line and gift bundle. Tony Laiwakete. Zuni stone.



Bear fetish with heart line and gift bundle. Donovan Laiwakete. Zuni stone.

Bear fetish with heart line of turquoise. Unsigned. Alabaster.

Double butterfly fetish. Vivella Cheama. Picasso marble with turquoise chips at base.

Portrait of butterfly maiden, 3.5 inches high. Freddie Leekya.

Portrait of butterfly maiden. Zuni stone, inlays of turquoise, red coral, pen shell, and jet dust. Freddie Leekya.

Butterfly maiden. Michael Charley Laweka. Alabaster, inlays of turquoise, red coral, black pen shell.

Freddie Leekya using a Dremel tool for carving fine details in a "Butterfly maiden" fetish of Zuni stone, a type of travertine dug on the reservation.

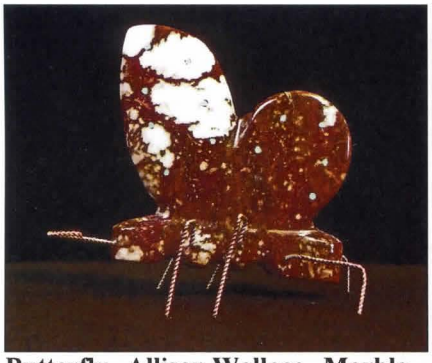
Assemblage of small butterfly fetishes. Various artists and shells.

Butterfly. Allison Wallace. Marble, silver wires.

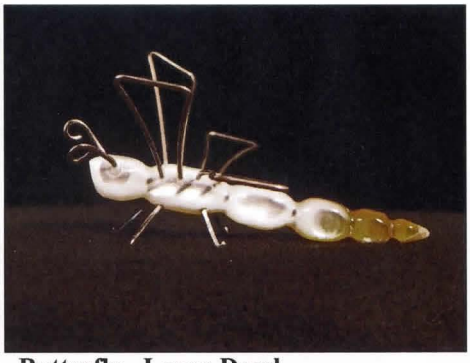
Butterfly. Kevin Chapman. Pipestone, silver wires, inlays of turquoise and diamond chips.

Butterfly. Unsigned. Jasper stone.

Butterfly. Unsigned. Dolomite, silver wires.



Butterfly. Allison Wallace. Marble, silver wires.



Butterfly. Lance Desel. Black pen shell, silver wires.

Butterfly. Tammy Deysee. Pink clam shell, silver wires.

Butterfly. Allison Wallace. Pipestone, silver wires.

Butterfly. Allison Wallace. Marble, silver wires.

Butterfly. Allison Wallace. Black marble, silver wires.

not on the surface of the stone. To the casual observer, the final interplay between stone color and patterns with the anatomy of the figured animal can seem almost uncanny. Such interplays, obviously, enhance the value of a carving.

Butterfly. Tammy Deysee. Shell.

Over the years, certain families of Zuni carvers have come to specialize in specific types of stone. The Leekya family, for instance, enjoys a reputation for specializing in Zuni stone, a stone dug from nearby sites known only to limited individuals.

Carvings are often augmented with "gift bundles" consisting of beads and arrowheads affixed to their backs. Offerings are to the animal spirit, and are believed to empower the fetish to better aid its guardian. Other carvings—particularly those of the larger power animals such as bears and bison—are accented with long, thin-line inlays of stone or stone dust. These "heart-lines" or "breath-lines" run between the mouth and the heart and lungs and represent the path of the breath and energy used by the animal to charm its prey; heart-lines assist a human hunter in his quest. Understandably, because of the butterfly's unique winged body type, butterfly fetishes lack bundles and heart-lines. Instead, these fetishes feature elaborate inlays of semi-precious and/or precious jewels to accentuate the insect's exquisite wings; all but those of Butterfly Maiden feature legs and antennae fashioned from gold or silver wires.

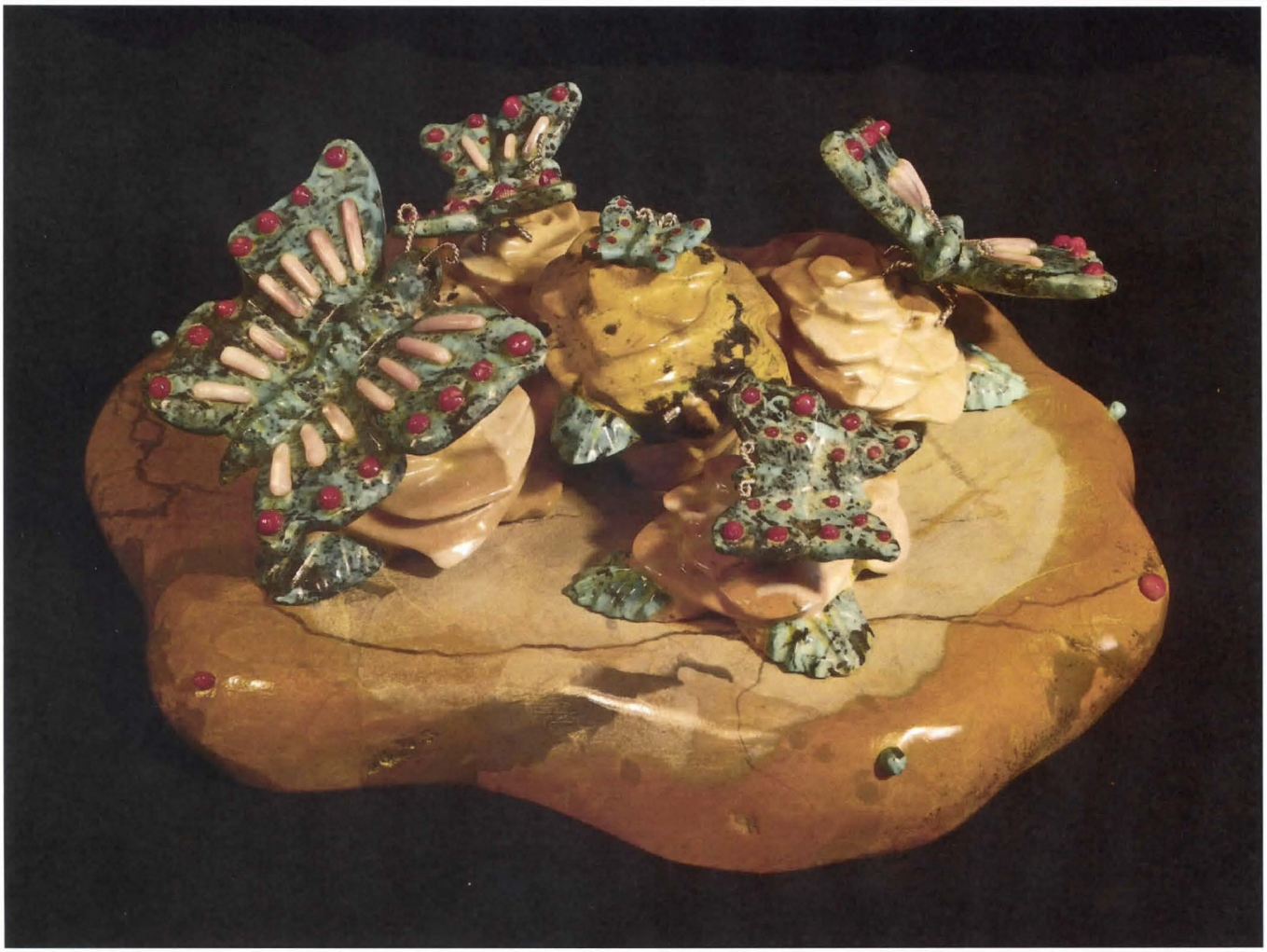
Assemblage of small butterflies. Various artists and media.

During my initial visit to Zuni, I concentrated on gathering information about fetishes and collecting examples. I took no photographs. In this way, I could minimize my intrusiveness with the artists. However, in 2014, I realized that if I wished to illustrate a story on fetish carvers, I needed to photograph carvers in action. My host Edward Lewis again proved helpful. Now residing in Black Rock, Edward was surrounded by fetish carvers. Quick introductions provided me with exceptional opportunities to document the carving process from beginning to end. As a token of my appreciation, I usually purchased most of the pieces that I had chronicled.

The carving of a fetish involves creativity and concentration. Because carvings are shaped by the cutting of raw stones, power tools are employed. These are a small portable grinding wheel and a small handheld Dremel rotary tool. The final product is never painted or lacquered. It is, however, polished with a mild abrasive marketed as a stone polish. Some carvings are embellished with small inlays of precious and semi precious stones. These are often used for eyes, mouths, horns, and hoofs. And as stated previously, some carvings are adorned with "gift bundles" and "heart lines." When it comes to butterflies and other insects, thin wire of sterling silver and gold are used to simulate legs and antennae. All contribute to the aesthetics of the final carving.

Surprisingly, the actual process moves along at a fairly rapid clip. Indeed, most small fetishes can be completed in a day or two. Inspiration for subject matter comes from the native landscape as well as photographs of exotic animals gleaned from magazines and books. At times a piece of raw stone will actually impart a specific image to its carver who then only has to "set free" the visage. Over the years, several carvers and even entire families of carvers have become renowned for their particular styles, say whimsicalness, caricatures. Some carvers even have a knack for portraying explicit emotional characteristics of their live animal subjects. Such fetishes are highly prized by collectors.

Today the art of the fetish is evolving. Originally small



Close up of Enrike Leekya's fetish sculpture, "Butterfly Garden." Stones are Zuni stone, turquoise, leopard marble, tijilite, with inlays of red coral, black pen shell, pink clam shell. Silver wire forms legs and antennae. Dimensions: 7.5 inches in diameter, 3.0 inches in height, 3.25 pounds in weight.

and simple in form, fetishes are becoming more complex and larger. Perhaps the model for this change can be traced to what is called a "directional fetish." This is a single unit of stone featuring six animals that in Zuni mythology represent the six cardinal directions: north, south, east, west, up, down. Because several different animals represent each direction, generally no two directional fetishes are identical. But several Zuni carvers are experimenting with non-traditional styles. For example, Esteban Najera who prefers carving deer, elk, and moose antler, is noted for creating assemblages of related fetishes. Concepts have included a large group of circus performers as well as small groups of rock and mariachis musicians. Each piece in these multi-piece composites, however, remains a separate figure, that is, unattached to a base that forms a unit.

With this in mind I asked Enrike Leekya, a highly creative young carver of a multi-generation family of renowned carvers, if he would design and execute a composite "sculpture fetish" fetish for me. I suggested that the unit have a solid base and feature a group of butterflies feeding on flowers—the representation of a butterfly garden in stone. Additionally, I requested that turquoise be a prominent stone. Other than that, he had free reign.

Enrike Leekya and his masterful 2014 composite fetish featuring a butterfly garden.

Enrike was eager to tackle the challenge. After securing a sizable block of good-quality turquoise (Kingman) from Albuquerque and a variety of other stones from local stores, he began the cutting process. Six days later the carving was complete (see photos, on this page). The overall sculpture is relatively round with a diameter of 7.5 inches and 3 inches in height; its weight is 3.25 pounds. The base is of Zuni stone accented with 7 small orb-like inlays of turquoise and red coral. Mounted on this are 5 rose-like

figures (marsh mallows) forming a grouping: 4 outer figures carved from cream/pink tijilite surround a larger central figure of pale yellow/black leopard marble. Turquoise inlays represent leaves. Poised atop the roses are 5 butterflies of different sizes. These are carved from turquoise with wing inlays of pink clam shell and red coral; black pen shell represents the eyes. The butterflies have antennae and legs of silver wire. The piece obviously cannot be carried about in a pocket or neck pouch as are typical fetishes. In my opinion, the "butterfly garden" piece by Enrike propels the world of fetish carving into the arena of fine art sculpture. Time will tell.

Finally, what about actual butterflies?

Butterflies were scarce during both my 2006 and 2014 visits. Zunis, in general, do not cultivate flower gardens around their residences, and commercial or forage crops are not grown in the region, either. Therefore there is little to attract pollinators to settled neighborhoods. The summer of 2006 was a particularly dry year. In fact, the Zuni River that traverses the Pueblo, was completely dry. Edward suggested that we drive to the base of the sacred *Dowa Yalanne* where native greenery was usually common. But here again, the drought was obvious: the earth was dry with minimal new growth and practically no plants were in bloom. Nonetheless, at *Dowa Yalanne* we did spot three stalwart species of butterflies: one mourning cloak (*Nymphalis antiopa*), two western pygmy blues (*Brephidium exile*), and a single western tiger swallowtail (*Papilio rutulus*).

My visit in 2014 was more productive. But the season was late fall when butterflies traditionally are not on the wing and when most natural vegetation has ceased flowering. Nevertheless, because the summer rains had been adequate and the Zuni River still had a remnant flow, some vegetation was still fresh with some plants still in bloom—for examples Indian blanket (*Gaillardia pulchella*), dandelion (*Taraxacum officinale*), and several small-flowering asters. Below are the ten species of butterflies that I observed. (All sightings involved only a handful of individuals, and because of the Zuni belief in the sanctity of all life forms, I collected no specimens.)

Checkered white (*Pontia protodice*)
Clouded sulphur (*Colias philodice*)
Mexican sulphur (*Eurema mexicana*)
Dainty sulphur (*Nathalis iole*)
Western tailed blue (*Everes amyntula*)
Acmon blue (*Plebejus acmon*)
Sagebrush checkerspot (*Chlosyne acastus*)
Field crescent (*Phyciodes pratensis*)
Painted lady (*Vanessa cardui*)
Red admiral (*Vanessa atalanta*)

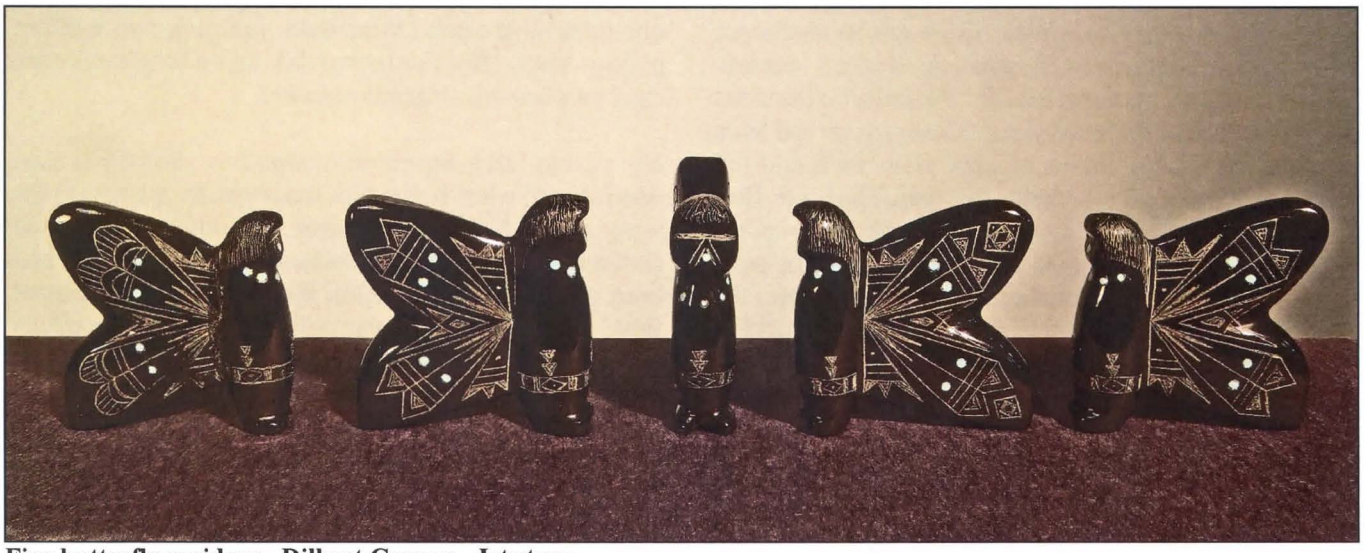
Butterfly maiden.
Donovan Laiwakete. Zuni stone.

Butterfly maiden.
Donovan Laiwakete. Clam shell.

Butterfly. Unsigned. Zuni stone, silver wires.

Butterfly. Tammy Deysee. Shell.

Pair of butterflies. Jayne Quam. Serpentine stone.



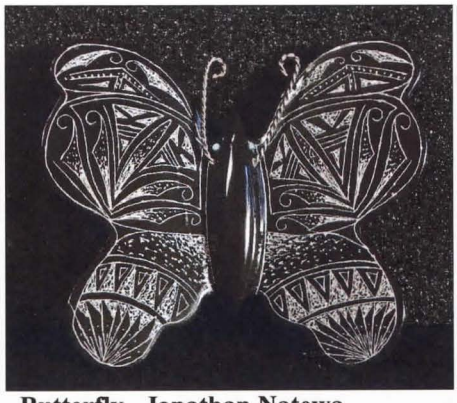
Five butterfly maidens. Dilbert Gaspar. Jet stone.

Butterfly. Sylvin Noche. Black marble. Silver wires.

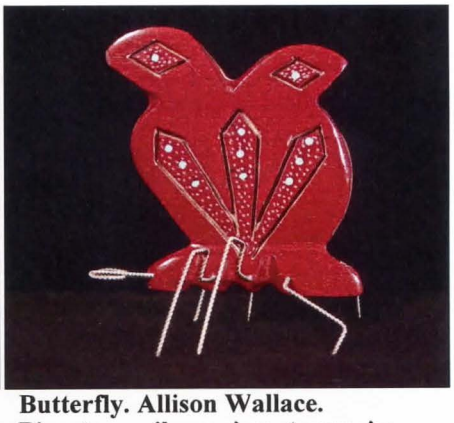
Skeleton with butterfly wings and Christian cross. Moose antler. Artist frequently depicts skeletons in his carvings in antler.

Skeleton of monster holding three butterflies. Title: "Where There is Death, There is Life." Esteban Najera was trying to contrast death/ugliness with life/beauty. Elk antler. Image was cover of April 2015 issue of *Natural History* magazine.

Butterfly. Cheryl Beyuka, White shell base, etchings, inlays of green shell, red coral.



Butterfly. Jonathan Natewa. Jet stone, silver wires, etchings, turquoise inlays.



Butterfly. Allison Wallace. Pipestone, silver wires, turquoise inlays.

Close-up of Esteban Najera's butterfly totem. Moose antler.

Esteban Najera displaying his recently completed butterfly totem in moose antler.

***Top*: Butterfly. Steven Natachu. Jet stone, silver wires, inlays of red coral, shell, and turquoise.**
***Bottom*: Butterfly. Cheryl Beyuka. Patchwork of red coral, turquoise, jet stone, and white shell.**

But in addition to the lateness of the season, there is another factor that contributed to the low number of species that I observed. Shortly after my arrival at the INN AT HALONA (a Bed & Breakfast) in the heart of the community of Zuni), I had a life-threatening/ debilitating accident. Let me explain.

On the day I arrived in Zuni (October 15), I accidentally slipped and fell in the parking lot of the B&B where I had reservations. Unfortunately my head slammed into a wooden fence. The result was a significant gash across the bridge of my nose. The local EMS folks were summoned and I was transported three miles to the ZUNI COMPREHENSIVE COMMUNITY HEALTH CENTER in Black Rock. Five stitches closed the gash, and I was released to return to the B&B.

EMS vehicle serving Pueblo of Zuni and surrounding areas. Blue color symbolizes the sky of the reservation and the color of turquoise, a sacred stone.

But all was not well. Within a few hours my body began to shut down: slurred speech, difficulty in walking, sleepiness. The next morning (October 16) I could barely get out of bed. Upon trying to walk outside I fell twice, but did not hit my head. I returned to my bed and EMS was called again. At the health center, a CT scan indicated that I had a massive brain bleed. This prompted the physician in charge to call GALLUP MED FLIGHT for a medevac. Within a short time I was transported via helicopter to the NEUROSCIENCE CLINIC OF THE UNIVERSITY OF NEW MEXICO HOSPITAL in Albuquerque, a distance of 124 air miles. I underwent a craniotomy to remove what was recorded as an "acute subdural hematoma." The incision was closed with 17 staples, leaving a drain in place for later removal.

My body responded almost miraculously! By the following day I could walk with only minor assistance and speak coherently. Having experienced no seizures or other malfunctions, I was released on day seven. (The doctors at UNM hospital consider my rapid and full recovery a rare statistic.) A registered nurse, Vicki Barker, who was part of the medical team caring for me, graciously volunteered to drive me in her vehicle the 153 miles back to the Pueblo of Zuni. And so I departed UNM on the morning of October 23.

Unfortunately, the B&B where I had initially stayed no longer had an available room. Feeling unsure of myself for driving, Vicki helped me transfer a few items from my SUV to her vehicle. We then back tracked to Gallup where I secured a room in a local motel on HISTORIC ROUTE 66. The next day I contacted my artist friend,

Edward and Alicia Lewis in their fall backyard corn patch in Black Rock, a suburb of Zuni. The Lewis family was my host and mentor during my recuperation (October 28-November 10, 2014) following my emergency cranial surgery at the University of New Mexico Hospital, Albuquerque, NM. The sacred Dowa Yalanne is just visible in the background.

Edward Lewis, who graciously offered to rent me a room in his home. However, for the next five days Edward lacked transportation, and so I wasn't retrieved from the motel until day six (October 28).

Edward and Alicia Lewis' home is in Black Rock. The setting is spectacular: the sacred Corn Mountain looms almost within touching distance of the dwelling. I spent my next few days in leisure, that is, recuperating (mainly trying to regain some of the 26 pounds I had lost), and becoming acquainted with neighboring carvers. In addition, I made several trips to the local health center for follow-up procedures to my surgery: removal of staples and an assessment of mobility and cognitive skills. Soon, though, I was able to renew my photography of fetish carving and photography of the Zuni landscape. In addition, I was now able to make limited observations of local butterflies. Undoubtedly, my limited ability to be in the field contributed to the low number of species that I observed. On November 10, I embarked upon the 1,500 mile drive back to Baton Rouge, arriving four days later on November 13 with no ill effects.

Arm patch of EMS in Pueblo of Zuni. Center image depicts Dowa Yalanne and other sacred symbols. Blue color is symbolic of sky and turquoise.

Edward Lewis demonstrating the multicolored kernels often developed in the small ears of "Indian corn."

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My special thanks to: Edward and Alicia Lewis (Black Rock); Roger and Loren Thomas and staff (INN AT HALONA, Pueblo of Zuni); Dr. Rebecca Ryan, Dr. Michael Sbarge, and supporting staff (ZUNI COMPREHENSIVE COMMUNITY HEALTH CENTER, Black Rock); Keith Cooeyate, Dion Lalio and Charles Leekity (FIRE/EMS DEPARTMENT, PUEBLO OF ZUNI, Black Rock); helicopter pilot (GALLUP MED FLIGHT, Gallup, NM); doctors, nurses, staff (UNIVERSITY OF NEW MEXICO HOSPITAL, NEUROSCIENCE ICU WARD, Albuquerque); Vicki Barker (UNM HOSPITAL and of Salem, AR); Karen Sheche (UNIVERSITY OF NEW MEXICO-GALLUP, Black Rock) for permission to use the school's wi-fi connection; various fetish carvers of Black Rock—particularly Freddie Leekya, Aprilene Charlotte Unkestine, Enrike Leekya, Kimberly Kallestewa, Esteban and Rochelle Najera, Travis Nieto, Anthony Mecale; Robert Sherman (Baton Rouge, LA); F. Randy Wright (Baton Rouge, LA); Grant Ross (Covington, LA); Charles Harris and Vittorio Maestro (NATURAL HISTORY MAGAZINE, Durham NC); and Paul Miller (THE DESIGNSMITH, Baton Rouge).

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MANY THANKS TO THE FOLLOWING SLS MEMBERS WHO DONATED TO THE SOCIETY

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HETEROCAMPA OBLIQUA PACKARD, 1864 (LEPIDOPTERA: NOTODONTIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

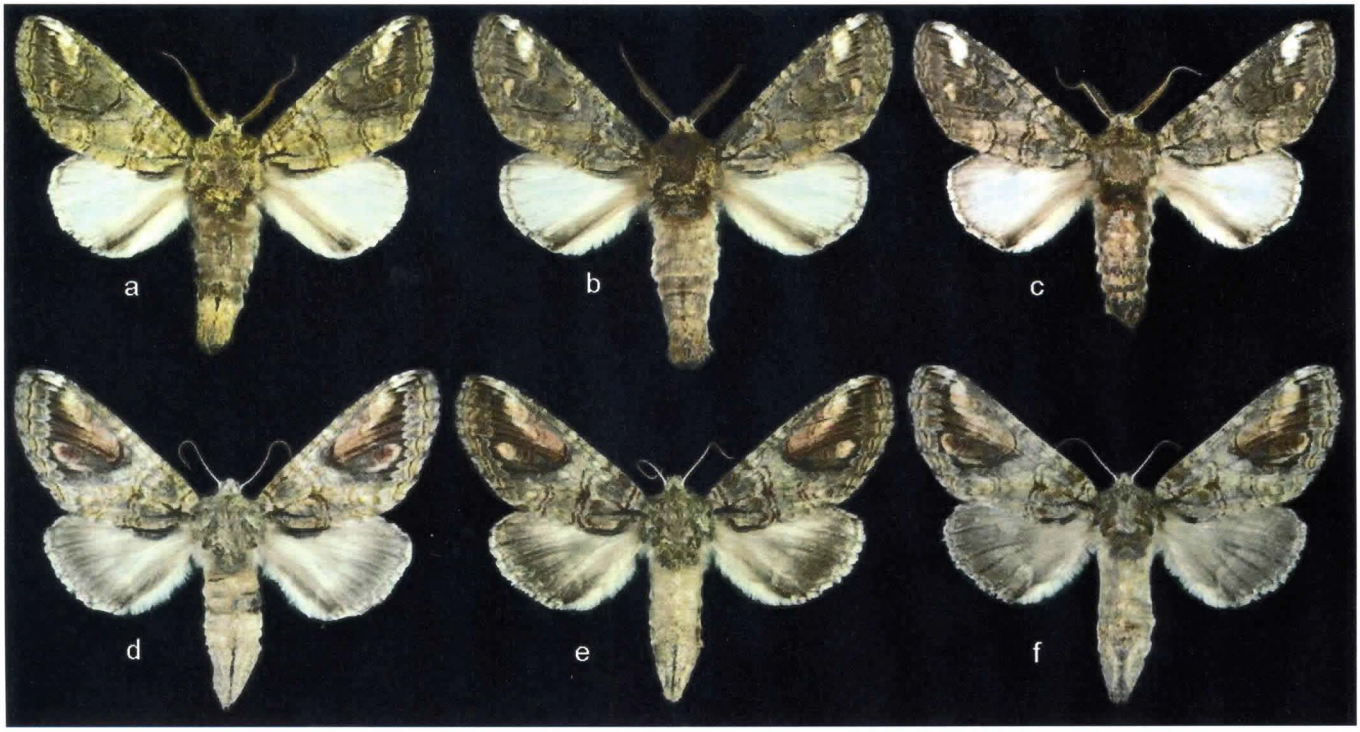

Fig. 1. ***Heterocampa obliqua*** phenotypes: a-c. males, d-f. females.

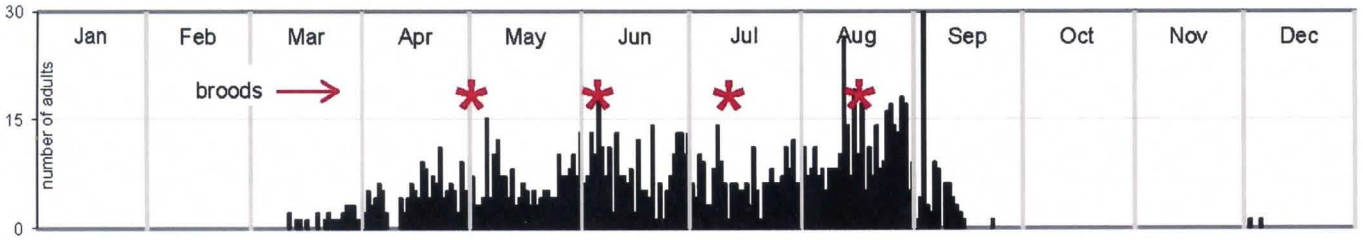

Fig. 2. Adult ***Heterocampa obliqua*** captured in Louisiana. n = 1,240

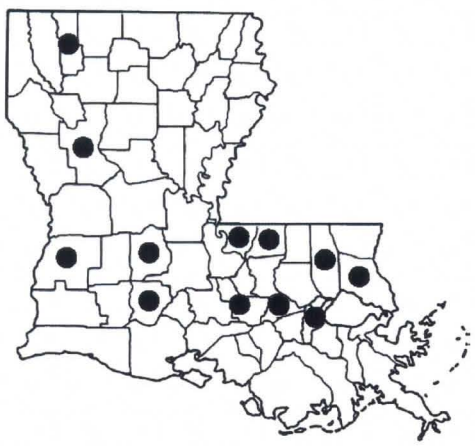

Fig. 3. Parish records for ***Heterocampa obliqua***.

The somewhat sexually dimorphic notodontid moth ***Heterocampa obliqua*** Packard, 1864 (Fig. 1) is fairly common occurring across the state of Louisiana. Covell (1984) listed the range of ***obliqua*** in North America to include Nova Scotia to Florida, west to Missouri and Texas, and in the months of May through September.

Within Louisiana, ***obliqua*** has four annual broods, first brood peaking end of April - beginning of May, with subsequent broods peaking at approximately 36-day intervals (Fig. 2). The parish records are illustrated in Fig. 3.

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DISCOVERED AT LAST: *LETHE CREOLA* (NYMPHALIDAE: SATYRINAE) IS A RESIDENT OF FLORIDA

JOHN V. CALHOUN [1], PATRICK R. LEARY, BILL BERTHET, AND ANDREW D. WARREN

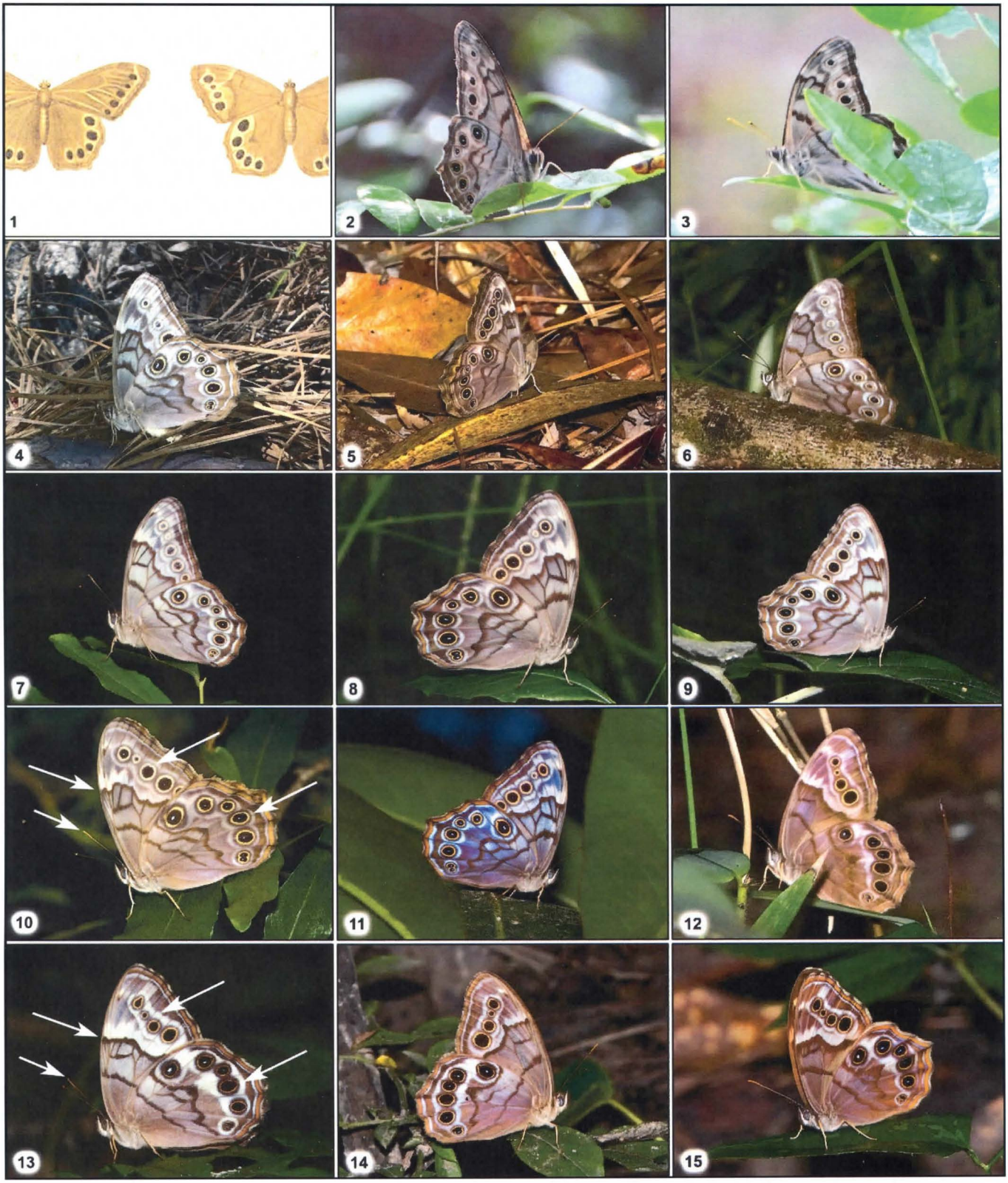
Around the year 1815, the English naturalist John Abbot (1751-c.1840) illustrated a pair of pearly-eye butterflies that he had collected in southeastern Georgia (Calhoun 2004). Although he illustrated other pearly-eyes during his residence in Georgia (see Heitzman & dos Passos 1974; Calhoun 2004, 2007), the male in this particular watercolor (Fig. 1) differs from all the others. It would be another six decades before a comparable male specimen, collected in Texas by Ludolph Heiligbrodt, was described by Strecker (1878) as "ab. a," an aberration of the species now known as *Lethe portlandia* (F.). A few other specimens were collected during the late 19th century, including three from Georgia that Herman Strecker received in 1879 from A. W. Latimer. In 1897, a male from Louisiana, collected by George R. Pilate, was recognized by Skinner (1897) as a new species, which he described as *Debis creola*. We now know this species as *Lethe creola*, the Creole Pearly-eye. The generic assignment of this species, and the closely related Southern Pearly-eye, *L. portlandia* (F.), remains controversial, with some authors using the genus *Enodia* Hübner. We follow Pelham (2014) in placing these species in the genus *Lethe* Hübner.

Shortly after *creola* was described, Holland (1898) attributed the species to Florida and later repeated this claim (Holland 1915, 1931). Either directly or indirectly, this prompted Weymer (1910) and Grossbeck (1917) to include Florida within the range of *creola*. Dozier (1920) reported *creola* to be an "inhabitant of rather dense hammocks" around Gainesville (Alachua Co.), Florida, but he did not list *portlandia*, which is known to occur in that area. Based primarily on his personal collection, Murrill (1938, 1945) listed both *creola* and *portlandia* as "frequent" in Gainesville. Klots (1951) popularized the notion that *creola* was "rare" in Florida, and this was repeated by Ehrlich and Ehrlich (1961). In his comprehensive treatment of Florida Lepidoptera, Kimball (1965) listed *creola* on the authority of Dozier (1920) and Skinner (1926), as well as purported specimens from Gainesville and Port Orange (Volusia Co.). However, Skinner (1926) clearly stated that the Florida specimens he had examined were not referable to this species.

Irwin (1970) reviewed numerous specimens of *creola* in museums and personal collections, but located none from Florida. He found that lepidopterists sometimes made the mistake of associating southern examples of *portlandia* with *creola*. During most of the 20th century, populations of the more northern *Lethe anthedon* A. Clark were also identified as *portlandia*, which contributed to the confusion. These taxa were not recognized as sibling species until the study by Heitzman and dos Passos (1974). Decades of field work in Florida failed to produce any valid records of *creola*, leading Emmel (1975) to pronounce that "there are no authenticated records as yet from Florida." Opler and Krizek (1984) and Opler and Malikul (1992) restated this conclusion. Calhoun (1997) considered all previous records of *creola* in Florida to be erroneous, prompting Heppner (2003, 2011) to do the same. Echoing the sentiments of Florida lepidopterists, Cech and Tudor (2005) called the absence of *creola* in Florida "peculiar." After recently curating the holdings of *creola* and *portlandia* at the McGuire Center for Lepidoptera and Biodiversity (Florida Museum of Natural History, Gainesville; MGCL), Warren counted an impressive 382 spread specimens of *creola* (243 males and 139 females) from 13 states, but none are from Florida. Calhoun (1997) asserted that the species probably occurs in Florida. Kons and Borth (2006) remarked that it "might turn up in the panhandle."

On 22 April 2015, while conducting a routine monthly review of Florida records that had been submitted to the Butterflies and Moths of North America (BAMONA) website (Lotts & Naberhaus 2015), Calhoun encountered a sobering image: a male *creola* from Nassau County, Florida, which had been photographed two days earlier (Fig. 2). Calhoun soon received an email from Pat Leary, who had submitted the photograph. Leary confirmed that he and his wife, Doris, had found the butterfly in Ralph E. Simmons Memorial State Forest. The only individual observed was encountered within the sparse understory adjoining a heavily wooded bottomland swamp forest. The butterfly was extremely wary and several efforts were required before it could be approached closely enough to photograph. Only two photos were possible (Figs. 2, 3), but they were enough to finally confirm the existence of this species in Florida.

Ralph E. Simmons Memorial State Forest (RSMSF), 3,638 acres in size, supports twelve types of natural communities. The four primary habitats are sandhill, wet flatwoods, upland pine, and bottomland hardwood forest. Acquired by the state of Florida in 1992, the



Figs. 1-15. Pearly-eye species. 1) Drawing of male *L. creola* (left) and female *L. portlandia* from Georgia by John Abbot (c. 1815) (Univ. South Carolina). 2) Male *creola*, 20.iv.2015, RSMSF locality 1 (PRL). 3) Same individual as no. 2 (PRL). 4) Female *creola*, 24.iv.2015, RSMSF locality 1 (JVC). 5) Female *creola*, 24.iv.2015, RSMSF locality 1 (BB). 6) Male *creola*, 25.iv.2015, RSMSF locality 1 (BB). 7) Male *creola*, 26.iv.2015, RSMSF locality 2 (ADW). 8) Female *creola*, 26.iv.2015, RSMSF locality 2 (ADW). 9) Female *creola*, 26.iv.2015, RSMSF locality 2 (ADW). 10) Female *creola*, 1.v.2015, RSMSF locality 2 (BB). Arrows denote key diagnostic features (see text). 11) Female *creola*, 1.v.2015, RSMSF locality 2 (BB). 12) Male *portlandia*, 24.iv.2015, RSMSF locality 1 (BB). 13) Female *portlandia*, 26.iv.2015, RSMSF locality 2 (ADW). Arrows denote key diagnostic features (see text). 14) Male *portlandia*, 1.v.2015, RSMSF locality 2 (BB). 15) Male *portlandia*, 1.v.2015, RSMSF locality 2 (BB).

forest borders Georgia along the St. Marys River in the extreme northeastern corner of Florida, about 36 air miles northwest of downtown Jacksonville (Fig. 16). The butterfly fauna of RSMSF is relatively well documented (Glassberg *et al.*, 2000, Berthet pers. obs. 2015). Among the 96 butterfly species recorded to date are several of rare occurrence in Florida, including *Callophrys irus* (Godart), *Celastrina ladon* (Cramer), and *Erynnis baptisiae* (W. Forbes). The closest known record of *creola* in Georgia is from 23 July 2010 at Paulks Pasture Wildlife Management Area, Glynn County, Georgia, about 40 air miles to the northeast (Flynn 2014, Lotts & Naberhaus 2015) (Fig. 16). This species surely occurs within suitable habitats across the intervening area.

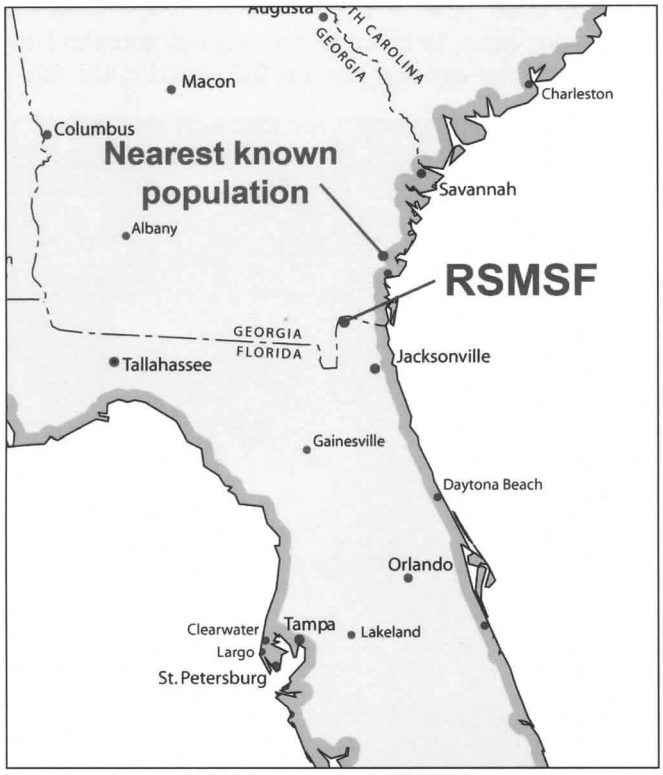


Fig. 2. Map showing location of RSMSF and nearest known population of *L. creola* in Georgia.

On 24 April, Calhoun and Berthet visited RSMSF in an attempt to determine the status of *creola*. The larvae of this butterfly feed exclusively on cane, a native species of perennial bamboo. Most authors report the hostplant of *creola* to be switch cane, *Arundinaria tecta* (Walter) Muhl., but this plant is now generally treated as a developmental stage of giant cane *Arundinaria gigantea* (Walter) Muhl. (Ward 2009). Leary did not notice much cane growing where he photographed the first butterfly, but an extensive canebrake was found in the forest a short distance to the south (Fig. 17). Canebrakes of various sizes extend for nearly a mile southward, paralleling the wettest portion of the swamp forest. To a much lesser extent, cane also grows in the forest to the north. Between 1000 and 1500 hrs, 14 *creola* (eight males and six females) and twelve *portlandia* were observed (Figs. 4, 5, 12). Other pearly-eyes were seen, but they did not settle and could not be positively identified. In addition to *creola* and *portlandia*, four other species of satyrs were observed in the area: *Lethe appalachia* R. Chermock, *Megisto cymela viola* (Maynard), *Hermeuptychia sosybius* (F.), and *Cyllopsis gemma* (Hübner).

On 25 April, Calhoun and Berthet were joined by Warren. Under mostly overcast skies, we positively identified seven male *creola* (Fig. 6) and at least six *portlandia*. A single male *creola* was observed visiting damp soil along a sandy access road near where the first male was photographed. The arrival of thunderstorms at around 1300 hrs. curtailed field work for the day. Before the weather deteriorated, however, Calhoun explored another forested wetland within RSMSF, about 2.5 mi southwest of the original locality. Cane grows commonly in the understory (Fig. 19), where five males and one female *creola* and several *portlandia* were observed. This area also supports a population of *L. appalachia* and these butterflies were found flying within the forest around extensive growths of low-growing sedges (*Carex* sp.).

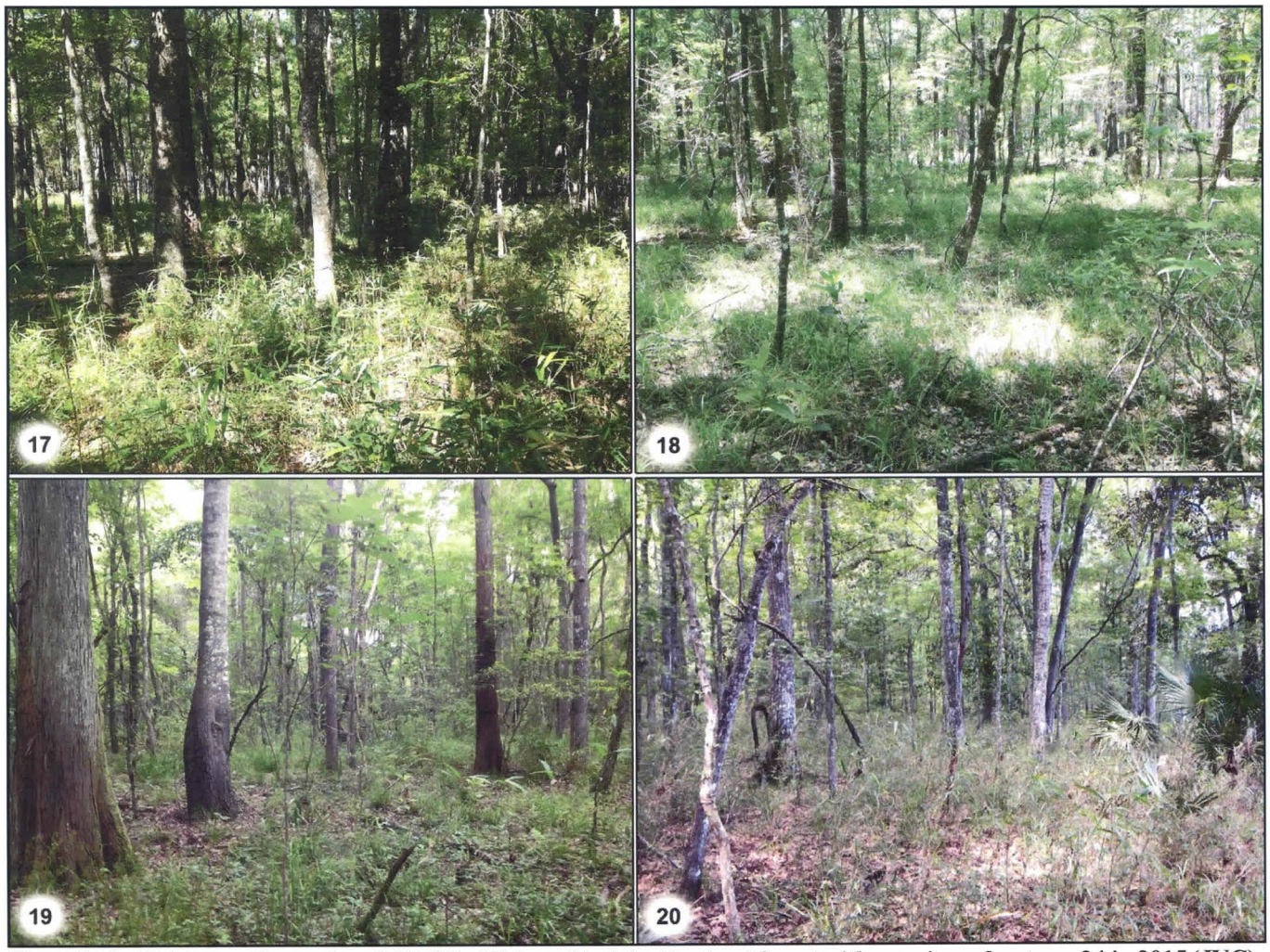
Continuing the survey on 26 April, Warren visited the first locality and positively identified three males and two females of *creola*, and about an equal number of *portlandia*. At the second locality, he observed two males and three females of *creola* and four males and four females of *portlandia* (Figs. 7-9, 13). He also recorded yet another satyrid: a worn male of the recently described *Hermeuptychia intricata* Grishin. Visiting RSMSF on 1 May, Berthet found three *creola* and eight *portlandia* at the first locality, and four *creola* and four *portlandia* at the second locality (Figs. 10, 11, 14, 15).

On 3 May, Warren returned to RSMSF and continued to investigate similar habitats. In a previously unexplored bottomland forest along the St. Marys River, approximately 0.8 miles northeast of the first locality, he counted 16 males and seven females of *creola* in 1.5 hrs. Only six *portlandia* were seen. Cane is abundant in the area (Fig. 20) and *creola* was more frequent here than at the other two localities.

The bottomland forests where *creola* was found are located within the St. Marys River Basin and are part of a complex mosaic of forested coastal wetlands that extend from Georgia into northeastern Florida. Less than 15 miles to the west is the extensive Okefenokee Swamp, which straddles the Florida-Georgia state line and serves as the headwaters of the St. Marys, a blackwater river that winds its way eastward for 130 miles to the Atlantic Ocean. It is likely that cane is widely distributed across this region and *creola* occurs within many of these habitats. The fact that this

butterfly maintains localized populations in inhospitable environments has contributed to its being overlooked in Florida for so long, even within Ralph E. Simmons State Forest, which is a well-known butterflying destination. This species has possibly always been present, but in very low numbers. Its abundance this year may be unusual, potentially due to a drop in parasitic activity. In Texas, tachinid flies were found to take a heavy toll on a population of *portlandia* (Tveten & Tveten 1996), and this may be the case with *creola* as well. It is also plausible that *creola* only recently become established at RSMSF. While conducting hydrologic studies during the late 1990s, Marc C. Minno visited RSMSF every week for several years. He unsuccessfully searched for *creola* around various canebrakes, including those at the third locality where we found the species to be common. If the species subsequently colonized RSMSF, its widespread occurrence there suggests that it has been present for some time.

Additional forested wetlands should be examined in northeastern Florida to determine the extent of the species' distribution, especially southward and westward within the drainages of the Nassau and Suwannee rivers. Several other areas were identified near RSMSF that may support populations of the butterfly, but they are on private property and difficult to access. Unfortunately, mosquitoes and ticks are plentiful in *creola* habitat. Ticks can be especially troublesome during the spring when the very small, red nymphs of the deer tick (blacklegged tick, *Ixodes scapularis* Say) are most active. Their primary adult host is white-tailed deer, which often occur in the same habitats as the butterflies. Because these pests are a vector of Lyme disease, precautions must be taken to prevent tick bites and to quickly remove any that become imbedded in the skin.



Figs. 17-20. Habitats of *L. creola* at RSMSF. 17) Locality 1: bottomland forest with cane in understory, 24.iv.2015 (JVC). 18) Locality 1: grassy open forest, 24.iv.2015 (JVC). 19) Locality 2: bottomland forest with scattered cane in understory, 25.iv.2015 (JVC). 20) Locality 3: bottomland forest near St. Marys River with abundance of cane in understory, 3.v.2015 (ADW).

Although it is sometimes reported that adults of *creola* are most active in the early morning and late afternoon (Bouseman & Sternburg 2001), peak activity on warm, sunny days at these localities was from 1130 to 1300 hrs. This is generally consistent with the activity of other butterfly species in the area. Nearly all the *creola*

were flushed from the understory, where they favored resting on the ground or on low vegetation. Despite reports that adults remain within dense stands of cane (Jeffords *et al.* 2014), virtually all the *creola* we encountered at the three RSMSF localities were within more sparsely vegetated areas in the proximity of canebrakes (Figs. 18, 19). Few were flushed from the canebrakes themselves, except at the third locality, where cane is much more abundant. There, several *creola* were found resting on cane plants or on the ground within canebrakes. At this locality, they were mostly found at the base of slopes in open bottomland forest not far from the hostplant. In one section of this site adults were also seen resting in trees overlooking a canebrake.

Males of *creola* were sometimes seen perching on tree trunks (either head-up or head-down) and on tree leaves between six and ten feet above the ground (especially when the trees were growing within canebrakes). Females were mostly seen perching on low vegetation or on the ground, but three were observed on leaves at heights of 10 to 17 feet. When flushed, adults fly erratically, but often only for a short distance before settling. If repeatedly disturbed, they disappear deeper into the forest or fly upwards into the canopy. Males of *creola* and *portlandia* fly similarly, but *creola* has a slightly more "purposeful" flight, aptly described by Clark (1936) as "resembling vanessids" [*e.g., Vanessa atalanta* (L.)]. Also, males of *creola* look grayer in flight than *portlandia*. Based on our observations in the early morning and prior to a rain storm, we suspect that most adults of *creola* roost in trees when they are inactive, not within canebrakes or elsewhere near the ground.

It is usually stated that *creola* is much less common than *portlandia* where the two species occur together (Harris 1972, Bright & Ogard 2010, Legrand & Howard 2015), and that *creola* seldom flies during the day, instead becoming most active just before dusk (Clark & Clark 1951, Gatrelle 1985). Our surveys indicate that *creola* is as common, or slightly more common, than *portlandia* at RSMSF, and adults are quite active during the day. To determine if *creola* becomes more active later in the day, Berthet visited RSMSF in the late afternoon and early evening of 7 May. He explored the second locality between 1700 to 1745 hrs., but encountered only three *creola*, all of which were flushed and not actively flying. He walked through the first locality from 1800 to 1930 hrs., again flushing only three *creola*. He arrived at the third locality at 1930 hrs. and departed at almost 2000 hrs, but no butterflies were seen. On that date, adults were starting to become worn, evidence that the first brood was beginning to wane. In common with populations in Texas and Alabama (Neck 1996, Howell & Charney 2010), *creola* is expected to produce two or three potentially overlapping broods in northern Florida, with adults flying from mid-April to September or early October. As with *portlandia*, adults of *creola* are most common locally when they are emerging in numbers during the peak of the flight period. Within days, fewer adults are encountered, suggesting that they disperse through the habitat or spend more time in the forest canopy. Interestingly, we witnessed no mating pairs, perhaps supporting the idea that this behavior usually takes place in the canopy.

It is not difficult to understand why these species were misidentified for so long. Males of *creola* are easily differentiated from *portlandia* by their elongated forewings that display patches of androconial (scent) scales along the dorsal veins. Females, however, are much more similar. The confusion between these butterflies dates back to the early 19th century, when John Abbot illustrated as the same species a male *creola* with a female *portlandia* (Fig. 1). Surprisingly, Skinner (1897) made the same mistake when he described *creola*, associating a female *portlandia* with a male *creola* (Gillham & Ehrlich 1954, Irwin 1970). In his popular book on North American butterflies, Holland (1898) wrote of *creola*, "The female has more yellow upon the upper side of the fore wings than *D. portlandia*." To W. J. Holland, the concept of *portlandia* also included what we recognize today as *L. anthedon*, and his brief analysis was obviously insufficient to accurately differentiate females of *creola*. Klots (1951) offered more useful diagnostic features, including the presence of five aligned eyespots on the ventral forewing of *creola* (Fig. 10), as opposed to a curving row of four eyespots in *portlandia* (Fig. 13). Although this character is helpful, it is not foolproof. Warren found that 10-15% of Florida *portlandia* at MGCL possess five forewing eyespots (in a few cases, there are five spots on one forewing and four on the other). Klots (1951) also emphasized the shape of the dark postmedian line near the costa of the ventral forewing. It irregularly protrudes in *creola*, resembling the knuckles of a clenched fist (Fig. 10), whereas in *portlandia* it is straight or slightly concave (Fig. 13). Another helpful character is the color of the antennal club. It is ordinarily black with a yellow-orange tip in *creola*, though a few individuals have an entirely black club. If viewed from below, the yellow-orange antenna appears to have a black band encircling the base of the club. Even when the dark band is less evident, the ground color of the club is yellow-orange (Fig. 10). Although clubs of *portlandia* can sometimes resemble those of *creola*, most are more vivid orange without a dark band (Fig. 13). A more variable trait is the amount of white surrounding the eyespots on the ventral hindwing. It tends to be more extensive in *portlandia*, usually surrounding all the spots as a group (Fig. 10). In *creola*, the white scaling is usually confined to rings

around individual eyespots (Fig. 10).

In comparing specimens at MGCL, Warren found that *creola* from North Carolina and Virginia west to Arkansas are smaller on average than those distributed from South Carolina to Louisiana. In addition, adults from South Carolina to Louisiana are slightly brighter in coloration. Those found in Florida are among the largest and most beautifully marked.

Acknowledgements. We thank Marc C. Minno for kindly sharing his experiences in searching for *creola* at RSMSF.

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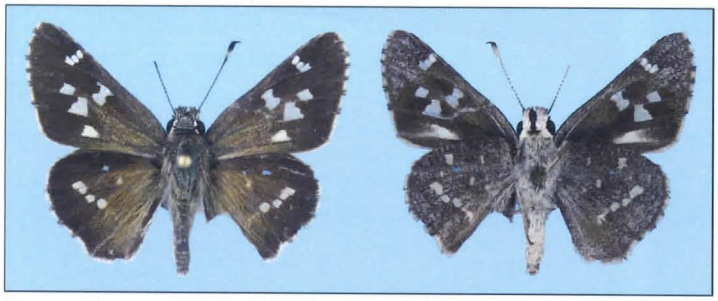
Desert Cloudywing (*Achalarus casica*)



Sheep Skipper (*Atrytonopsis edwardsii*)

These two skippers, the Desert Cloudywing (*Achalarus casica*) and the Sheep Skipper (*Atrytonopsis edwardsii*), were collected in the Davis Mountains State Park on May 7, 2015 (Texas State Park Scientific Study Permit, no. 01-05).

Thanks to Ed Knudson for helping with the identifications. Ed states that "*Both are fairly common in the Davis Mountains.*"

J. Barry Lombardini

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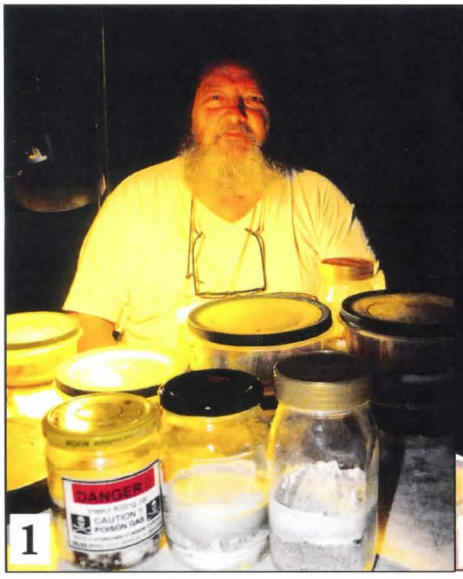
MAY 17, 2015 FIELD TRIP TO KISATCHIE NATIONAL FOREST IN LOUISIANA

BY

VERNON ANTOINE BROU JR. AND RICKY PATTERSON

Vernon Antoine Brou Jr. (Fig. 1) and Ricky Patterson (Fig. 2) returned after one night of a planned 5-night field trip to Kisatchie National Forest in Natchitoches Parish, Louisiana. Sideways driving rain and constant rain which lasted for just about every minute we were there. It seems we were located at the rainiest spot in the entire state that day, getting 10" of rain the first night we were there. Prior to making this trip we discussed whether to take our chances or possibly cancel the trip based upon the rather bleak 5-day forecast for rain occurring across the entire state. But, we chose to hope for the best and proceeded, for Vernon, a 500 mile round trip. Provisions and consumables for the trip included food, water, and about 60 gallons of gasoline for the generator, enough to last the planned multi-night trip.



Just setting up was difficult with rain and very strong winds which almost succeeded in blowing away our tents on numerous occasions. We were forced to manually hold down the dining fly over our tents during wind that was so strong it bent the poles, all the while with lightning striking all around. Our activities at the one light trap during the rain filled night were limited to the brief minutes of occasional lulls (Fig. 3). We did manage to capture both large and small moth specimens, some of the larger sphingids and catocalas are illustrated in Fig 4. The main problem we experienced is that so very many of the specimens we did capture, suffered flight and rain damage, and were discarded. Fig. 5 illustrates the view from inside of our tents on the morning of May 18th, following our first night.

On our first day (May 17th) of our disastrous field outing, in my hurried state of working in the rain, I (Vernon) brushed against a plant that had thousands of long needle-like thorns that went through my knee-high socks. I ignored the pain, and upon returning home on night of May 18th noted my right knee-high sock was glued to my leg. Below the knee, my shin and calf were blood-red in color and very edematous (swollen). Applied some antiseptic sprays and some ointments and copious amounts of calamine lotion. This is what it looks like after about 6 days of healing. Still bad, but believe me, this looks a lot better than earlier when I returned home (Fig. 6).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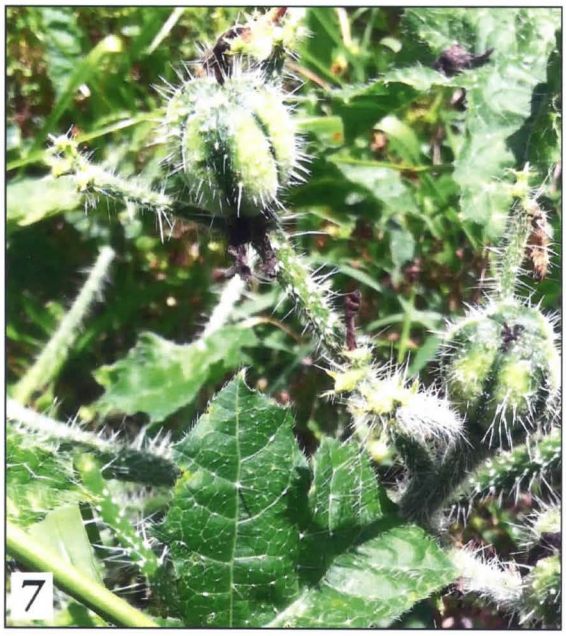
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Vernon had previously seen this plant over the past 35 years of visiting this location, but never got around to identifying it. Through the help of some friends on Facebook it was quickly identified as ***Cnidoscolus texanus*** (Müll. Arg.). Small Texas bull nettle, Bull nettle, Tread-softly, Spurge nettle, a member of the **Euphorbiaceae** (Spurge Family) (Fig. 7). One Facebook friend in Mexico mentioned this plant even occurs down to the rain forest in Los Chimalapas, Oaxaca.

We thank Selena Dawn McMillian and Juan Carlos Garcia Morales for their help identifying this plant.

(Vernon Antoine Brou Jr., 74320 Jack Loyd Road, Abita Springs, Louisiana 70420; E-mail: vabrou@bellsouth.net
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May 2015 lepidopterist visitor to Vernon A. Brou Jr. and Charlotte Brou.

Jeffrey R. Slotten (left) and Vernon Antoine Brou Jr. (right), behind camera - Charlotte Dozer Brou.

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A TRIBUTE TO BOB PATTERSON

The vision and hard work applied by Bob Patterson with the able support of his wife Grace over many years produced the Moth Photographers Group - the most

Bob Patterson at the Lepidopterists' Society Meeting at Yale University, 2011.

useful tool for the identification of North America moths, as well as some moths from other countries as well. In 2014 Bob's tireless work of photographing and putting into Moth Photographers Group (MPG) the hundreds of images of American moths had to end because of health issues. Dr. Richard Brown, Director of the Mississippi State Entomological Museum, has been providing the technical backing for this great service, free to the lepidopterist community, and he informed me that funding to continue the development of the MPG was temporarily curtailed because of Bob's inability to continue his work, plus a shortage of funding. At the 2014 Annual Meeting of the Southern Lepidopterists' Society the Board discussed a fitting means to honor Bob for his vision and amazing hard work. The Society's usual expression of honor to members who have made outstanding contributions to "southern" lepidopterology is the John Abbot Award. However, in Bob's case such an honor was not, we heard, what he would like. Instead he was reported to wish most to keep MPG going strong, and for that the remedy is adequate funding.

Thus at the annual meeting a freewill offering was collected to provide remuneration for a worker to enter new species images, correct older ones, and update locality information on MPG's website. A total of $500.00 was collected, and earlier this year this was paid to Christi Jaeger at Mississippi State University to compensate her in part for her services. Much more importantly, more substantial funding has now been provided by the Wedge Entomological Research Foundation to support continuation of this important work. We hope Bob's work can be continued well into the future, and I wish to thank all of you who contributed to this well-deserved tribute to Bob for all his superb and important work in giving us the Moth Photographers Group.

Any of you who would like to contribute to this special fund to help keep the Moth Photographers Group going strong, please contact me at my email address, ccovell@flmnh.ufl.edu. I will be happy to add your donation to the total we have already put to work on the project at Mississippi Entomology Museum. Many thanks.

We thank Bob and Grace, Richard Brown, and also the many photographers who have contributed photos to this unique identification resource.

Charlie Covell, Chairman

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NOTICE - UPCOMING ANNUAL MEETING OF THE SOUTHERN LEPIDOPTERISTS' SOCIETY

To all SLS members and friends: the Annual Joint Meeting of the Southern Lepidopterists' Society and the Association for Tropical Lepidoptera will be held at the McGuire Center for Lepidoptera and Biodiversity in Gainesville, Florida, on **October 16-18, 2015.** There is an insert in this issue (June 2015) of the SLS NEWS which is the Registration form. Information about the meeting may be obtained by e-mailing Jacqueline Miller at jmiller@flmnh.ufl.edu.

IRVING L. FINKELSTEIN

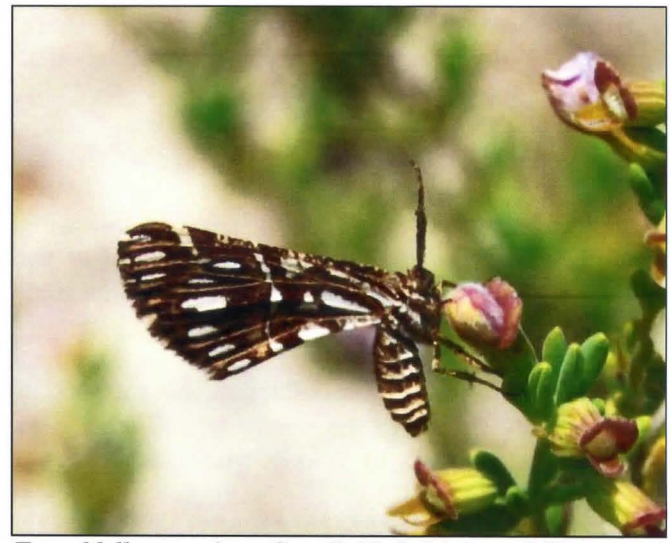
1936 - 2015

Irving Finkelstein, of Atlanta Georgia, passed away at 8:25 a.m. on February 26, 2015, at the age of 78, in the company of longtime friend Sandra Davis. Irving was born June 18, 1936, to Nathan and Pauline Finkelstein, and spent his childhood days in Brooklyn and Queens in NYC. Irving indicated that his fascination with Lepidoptera started at age seven, when he enjoyed collecting saturniid cocoons from the trees along the streets of NYC. Irving obtained his undergraduate degree in advertising design from Pratt Institute, and worked what he called an excruciating three years in New York art studios and ad agencies. He eagerly went back to school to get his M.A. and Ph.D. (1968) degrees in Art History at New York University, after which he taught for a year at Brandeis University, three years at Southern Methodist University, and the final 25 years (1971 – 1996) of his career at Georgia State University in Atlanta.

Irving Finkelstein at Doerun Pitcherplant Bog NA, Colquitt Co.

Irving joined the Lepidopterists' Society in 1972 and attended the charter meeting of the Southern Lepidopterists' Society (SLS) in 1978. He served as the secretary for the SLS from 2002 – 2007, and in 2003 won the John Abbot award from the SLS for his contributions to southeastern Lepidoptera studies.

From the first SLS meeting on, he vividly recalled meeting many lepidopterists with like minds which reinforced his strong love for butterflies. In 1980, Irving started participating in trips to the tropics led by Tom Emmel, and enjoyed collecting in Peru, Ecuador, Brazil, French Guiana, Costa Rica, Guatemala, and Belize. He independently visited other neotropical locations several times. He also exchanged specimens with collectors from Spain, France, Israel, Japan and elsewhere, building a collection of many 1000's of specimens over the course of 36 years. He had an insatiable appetite for building his collection.



***Fernaldella georgiana* Covell, Finkelstein and Towers, at Handy Kenedy Rd. Ohoopee Dunes site, 1 mile north of Hwy. 152, Tattnall Co., Georgia, April.**

In August of 1990, I had the good fortune of first meeting Irving while searching for Diana Fritillaries in the Cooper's Creek area of north Georgia. Through the 90's we collected butterflies together in many locations in Georgia, and gradually I infected Irving with a love of moths. After his retirement in 1996, Irving devoted the last two decades of his life to learning of the moths of Georgia, and he and I travelled to and trapped moths in many locations. His identification skills grew very rapidly in the late 1990's, and he easily helped me identify large trap samples for our quarterly reports to the SLS News. Interestingly, prior to his intense interest in moths, Irving discovered in 1981 a lovely day-flying geometrid moth (*Fernaldella georgiana*) at the Ohoopee Dunes, a unique Georgian habitat 90 miles inland from the coast, that he and Charlie Covell then described (*Jour. Res. on the Lepid.* 23, 2: 161-168 [1984]). This moth to this day is found only in a four county area in Georgia. Irving also frequented the north Georgia mountains, and collected many good records for the state, including the only two specimens of Georgia's only Ghost Moth, *Sthenopis auratus*.

Irving had been diagnosed with Crohn's disease relatively early in his life, and had managed his condition reasonably well for decades. In February 2009, Irving was further diagnosed with multiple myeloma, which was treated aggressively. Despite this, Irving continued travelling and collecting moths, including a trip to Kansas and Colorado in May of 2012. Irving was active collecting into 2014, still spreading specimens as late as December of 2014.

His large collection was donated to the McGuire Center in Gainesville, Florida, just weeks prior to his death (News of the Lep. Soc. 57:1, 42-43, covers [2015]). I sent him a prepublication copy of the article about his donation which he saw and very much appreciated just five days before his death. Irving indicated that if you wish to do something in memoriam for him, please make a donation to the International Myeloma Foundation at **www.myeloma.org**.

[contributed by James Adams and Sandra Davis]

Andrei Sourakov sent me (James Adams) the following touching comments in an e-mail after the staff of the McGuire Center had picked up Irving's collection from his home in Atlanta:

"When Irving gave up his collection, he was not in physical pain, thanks to the medicine. When it was loaded onto the truck, he calmly wished them a safe journey. I have been accused of many things, but sentimentality is not one of them. Yet, Irving touched my heart profoundly with his frail appearance and superhuman strength. When Andy Warren, Tom Emmel and I visited him three weeks ago, he entertained us with stories of his childhood, offered us refreshments, and enquired as to our comfort. All of this as he was dying of cancer and had only a few weeks to live.

It looked to me as though his collection was the expression of his artistic nature that perhaps did not materialize in his art. In fact, his collection, in my view, represents an unrivaled form of art yet to be discovered by art critics. It has everything that a great piece of art should have: depth, perception, historical and modern relevance, immortal beauty, and personality. It is premeditated, researched and executed with meticulousness, precision and love. While teaching art history for a living, Irving seems to have invested a good part of his soul into his collection and the associated explorations. He may have found his true calling, but perhaps we should be thankful that he has not become a professional entomologist. The forbidden fruit is often sweeter, and perhaps his catches, his pursuits, and his entomological art are so aesthetically pleasing to the eye and so important to him because he was not relying on it to earn him a living."

[printed with permission from Andrei Sourakov]

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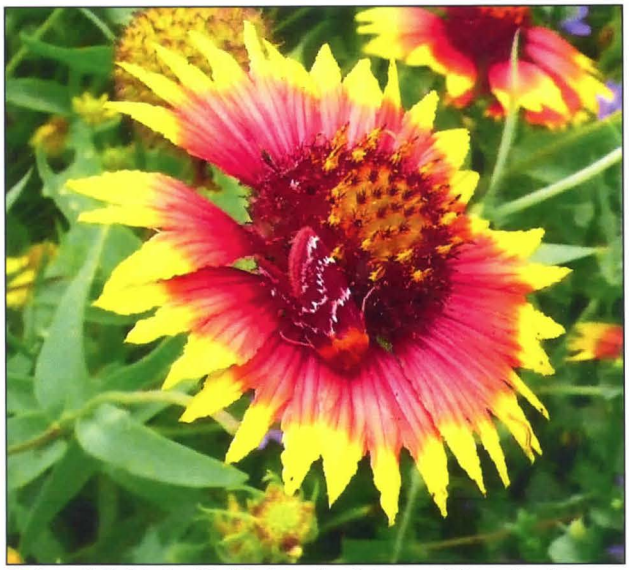
12.12 INCHES OF RAIN - CITY OF LUBBOCK, TEXAS

West Texas, as pretty much the rest of Texas has been under drought conditions for the last 3-4 years. Well, as the National news reports have indicated this has dramatically changed this Spring. Flooding has been prevalent in much of Texas with much destruction of property and loss of many lives. However, Lubbock has been very fortunate in terms of minimal property damage and no loss of life. But we did receive 12.12 inches of rain in the month of May. This is not a a record as Lubbock received 12.69 inches in May of 1941, but coming in second was still impressive. And only 1.81 inches short of the all time rainfall record (13.93 inches) which occurred in September of 1936. Needless to say the vegetation has greatly improved but is not lavish. OK the drought is over, but how are the numbers of butterflies and moths - poor!! (Photo of area around Buffalo Springs Lake, 4 mi. east of the City of Lubbock.)

SCHINIA VOLUPIA, THE PAINTED SCHINIA OR GAILLARDIA MOTH

BY
BILL LINDEMANN



Painted Schinia (*Schinia volupia*) on a Firewheel flower (*Gaillardia pulchella*).

While scanning for butterflies in the beautiful Pollinator Garden in Lady Bird Johnson Municipal Park in Fredericksburg, Texas, I glimpsed a disruption of color bands on a Firewheel flower, *Gaillardia pulchella*. Nestled in the bloom was a small colorful moth, *Schinia volupia*, almost completely camouflaged by colors in the flower. The moth's common name is Painted Schinia, or known by others as the Gaillardia Moth. *Gaillardia pulchella* is its larval food plant. The plant's floral range covers Texas westward to Arizona and northward to Kansas and Colorado.

With its colors matching those of the flower, the moth could be confident resting here during daylight hours awaiting nightfall. In nearly perfect color coordination with its host plant's blooms, the moth was safe sleeping in the full open view of its potential predators. Less colorful moths must seek out tree bark and wood grain patterns to conceal their presence. *Schinia volupia's* red-orange wing color and dull yellow, or golden head and thorax has morphed over thousands of years to match its favorite host flower.

To search for this flower, one must first find a patch of *Gaillardia pulchella* and carefully scan the flowers for any disruption in the reddish-orange and yellow bands. If you are successful, you will observe this moth species that can hold its own in a color contest with many species of butterflies. The bloom period for the Firewheels spans the summer months from March to September, a match for the moth's multiple brood emergences from April to November.

(Bill Lindemann, E-mail: billin2@beecreek.net)

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NOMINATIONS FOR 2015 JOHN ABBOT AWARD

"The Abbot Award was created to recognize the efforts of nominated individuals, major contributors to the knowledge of Lepidoptera fauna in the United States, with particular emphasis on the south, though not necessarily restricted to the region."

We have had a nomination for the 2015 John Abbot Award, which was not bestowed last year. The name of Dr. Deborah Matthews has been put forward to the Chairman. According to our Constitution and By-laws, other nominations are to be solicited as well, and the winner selected by a vote of the membership. A list of past recipients can be seen by googling "Abbot Award: Southern Lepidopterists' Society." Please send me the name of your nominee and some supporting information by July 15, and information on each nominee and voting directions will be in the next Southern Lepidopterists Newsletter. My email address is ccovell@flmnh.ufl.edu. Thank you.

Charlie Covell, Chairman

REPORTS OF STATE COORDINATORS

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

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

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

Charlie sends in the following May 31 Florida Report:

Kathy Malone recorded her first Sweadner's Juniper hairstreak, *Callophrys gryneus*, in her yard in High Springs on March 21. It was her first record there after living there over 10 years, and a memorable finale to her life with us in Alachua Co., Florida. She's now moved to Tennessee. I had a similar sendoff after 40 years in Louisville, KY. In June 2004 I spotted an *A. vanillae* in our back yard where I had let passion vine grow rampant prior to our leaving for Gainesville, FL. It was my first record of the Gulf Fritillary in Louisville in all that time!

This spring has not been as rainy in northern Florida as last spring. Butterfly numbers seem moderate. Following is a list of the species recorded by me during March-May, 2015, in the Gainesville, Alachua area:

Papilio glaucus, March 3, 19, 21, 25, 26, May 21, 24
Phoebus sennae, March 3, 8, 11, 13, 16, 19, 31, April 25, May 16
Abaeis nicippe, March 3
Danaus plexippus, March 4, 13, 26, April 24, May 31
Epargyreus clarus, March 10
Junonia coenia, March 13, 16, 21, 25, 28, April 4, 11, 14, 22, 24, May 12, 16, 19, 20, 23
Papilio palamedes, March 16, 26, May 25
Vanessa atalanta, March 16, 21, 31, April 22
Vanessa virginiensis, March 21, April 22
Atlides halesus, March 25
Parhassius m-album, March 25
Libytheana carinenta, March 25, 29
Agraulis vanillae, March 26, April 22, 30, May 12, 19, 31
Heliconius charithonia, March 26, May 2, 3, 20, 22, 25, 29, 31
Heraclides cresphontes, April 1, May 12, 19, 31
Asterocampa clyton, April 11, 14
Hylephila phyleus, April 14, 24, May 16, 23
Phoebus philea, April 22
Papilio polyxenes asterius, April 24
Limenitis archippus, April 24, May 22, 25
Erynnis horatius, April 30, May 2, 3, 12, 16, 17
Urbanus proteus, May 2
Papilio troilus, May 3, 12, 16, 17, 19, 20, 23, 25, 29
Eurema daira, May 21
Enodia sp. (*anthedon* ?) May 30

Geometridae: *Cyclophora myrtaria*, March 27

Saturniidae: *Actias luna*, wings on ground after predation, May 29

The survey for *Papilio aristodemus ponceanus*, the federally endangered Schaus swallowtail, was very successful in April through May, as unofficially reported by Jaret Daniels and Matt Standridge of the McGuire Center for Lepidoptera & Biodiversity, FLMNH, Gainesville. Many Schaus Swallowtails have been recorded in Biscayne National Park and N. Key Largo, along with ample Bahaman Swallowtails, *Papilio andraemon bonhotei*. *Eunica tatila tatilista* has been in good numbers this spring as well.

Barbara Woodmansee reported a Pine Elfin, *Callophrys niphon*, at Devil's Hammock outside Bronson, on March 1. Barbara reported the following on a visit to San Felasco Hammock in NW Gainesville on March 7, and said that the

small trees and shrubs had been all cut down in the power line area. She saw a tent on a Yucca plant that she thought might be a 2015 yucca skipper's, but found no eggs or skippers.

Question Mark - 1
Red-banded hairstreak - 8-10
Zebra Swallowtail - 5-6
Common Buckeye - 5
Horace's Duskywing - 3 or 4
American Lady - 2
Pearl Crescent - 2
Phaon Crescent - 1
Whirlabout - 1
Carolina Satyr - 6
Black Swallowtail - 1
Sleepy Orange - 3
Clouded Skipper - 1
Cloudless Sulphur - 1
Pipevine Swallowtail (male) - 1
Longtail Skipper - 1

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Here are several records from James Adams who states that he is staying in Gainesville this summer. "Some I'm sure are no big deal to Floridians, but most of these are things I would consider pretty cool if I collected them in Georgia, or in the case of *Acronicta betulae*, something that seems pretty far south."

Gainesville, 312 SW 113th Terrace, 29°38'58"N, 82°27'49"W, Alachua Co.:
GEOMETRIDAE: *Scopula lautaria* (16-17, 19 May); *Cyclophora myrtaria* (20 May). **EREBIDAE**: *Utetheisa ornatrix* ("*bella*", 16, 29 May); *Cosmosoma myrodora* (14 May); *Simplicia cornicalis* (16-17 May); *Antiblemma concinnula* (24, 28 May); *Catocala muliercula* (14 May); *Catocala insolabilis* (24, 25 May); *C. jair* (multiple dates); *Metallata absumens* (19, 20 May); *Pseudanthracia coracias* (14, 15 May). **EUTELIIDAE**: *Paectes nubifera* (20 May). **NOCTUIDAE**: *Acronicta betulae* (16-17 May); *Spragueia onagrus* (16-17, 30-31 May); *Bagisara repanda* (30-31 May); *Acherdoa ferraria* (28 May); *Bellura gortynoides* (30-31 May).

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

The contributors include James Adams (JKA or no notation), John Hyatt (JH), Lance Durden (LD), or Brian Scholtens (BS). Other contributors are spelled out with the appropriate records. Most records presented here represent new or interesting records (range extensions, unusual dates, uncommon species, county records, etc.), or more complete lists for new locations/new times of year. All known new STATE and COUNTY records are indicated, and all dates listed below are 2015 unless otherwise specified. In other news, Irving Finkelstein, long time collecting colleague of mine, passed away on February 26. He will be greatly missed. Please read the obituary elsewhere in this Newsletter.

Carbondale, I-75 exit 326, Whitfield Co.:
SPHINGIDAE: *Sphinx kalmiae*, April 23.

Adairsville, Plainville Rd., Gordon Co., May 1:
HESPERIIDAE: *Amblyscirtes vialis* (COUNTY).

Taylor's Ridge, 5 mi. W of Villanow, N of Hwy. 136 on county rd. 250:
April 25-26, with Patrick Adams:
LIMACODIDAE: *Packardia albipunctata*. **GEOMETRIDAE**: *Glena cribrataria*. **SPHINGIDAE**: *Sphinx kalmiae*. **EREBIDAE**: *Spilosoma latipennis* (2). **NOCTUIDAE**: *Colocasia propinquilinea, Ulolonche modesta* (second specimen from here).
May 9-10, with Patrick Adams:
COSSIDAE: *Prionoxystus macmurtrei*. **LIMACODIDAE**: *Heterogenea shurtleffi*. **GEOMETRIDAE**: *Exelis pyrolaria, Lytrosis permagnaria* (4), *Metarranthis amyrissaria, M. indeclinata*. **EREBIDAE**: *Spilosoma latipennis* (5), *Grammia figurata, Hypsoropha monilis* (LATE), *Zale undularis, Metria amella* (second specimen from here). **NOLIDAE**: *Nola pustulata* (common). **NOCTUIDAE**: *Chrysanympha formosa, Acronicta morula.*

Canton, Riverfalls Subdivision, Cherokee Co., Sept. Nov. 1996, Bill Wolfe:
GEOMETRIDAE: *Apodrepanulatrix liberaria.*

Milledgeville, Oconee River Greenway, Baldwin Co., Sept. 30, 2010, B. Barnes:
EREBIDAE: *Catocala amatrix* (COUNTY).

Wormsloe State Historic Site, Chatham Co., May 1-2, Fitz Clarke, John and Nancy Crosby:
LYCAENIDAE: Many Banded (*Satyrium calanus*) and Southern Oak Hairstreaks (*Satyrium favonius*) nectaring on Sparkleberry. John Crosby digitally captured a Striped (*Satyrium liparops*) Hairstreak and a single King's Hairstreak (*Satyrium kingi*) also on Sparkleberry, most active between 1:00-3:00 pm.

Sapelo Island, McIntosh Co., JH, LD, and BS:
The following species are new or nearly new for the island:
GELECHIIDAE: *Chionodes imber* (18 Oct. 2012); *Dichomeris citrifoliella* (10 May 2012, 21 Feb 2013), probably not especially unusual, but the first time I've seen it (BS). **SESIIDAE**: *Synanthedon sapygaeformis* (25 Jun 2014). **TORTRICIDAE**: *Phaneta* nr. *grindeliana* (7 Sept. 2013); *Eucosma notialis* (7 Sept. 2013); *Sparganothis azulispecca* (3 April 2014), this newly described species seems pretty common on the island; *Aethes promptana*. CRAMBIDAE: *Aethiophysa consimilis* (14 May 2015). **PYRALIDAE:** *Homoeosoma ammonastes* (8 Sept. 2013); *Unadilla maturella* (14 Sept. 2012), first one I've seen and confirmed by dissection; *Baphala phaeolella*; *Peoria luteicostella* (9 May 2013, 7 Sept. 2013), apparently somewhat common on the island; *Arivaca albicostella* (7 Sep 2013, 9 May 2013, 10 May 2012, 14 Sep 2012, 24 Aug 2012), quite common on the dunes - at least two broods (BS). **NOTODONTIDAE**: *Schizura unicornis* (13-14 March 2015). **EREBIDAE**: *Litoprosopus futilis* (13-14 March 2015), *Catocala connubialis, gracilis* and *similis* (14 May 2015), *Zale buchholzi* (COUNTY; 13-14 March 2015).

Ohoopee Dunes Tract 4, 9 mi. SW of Swainsboro, April 1-2, 2015:
OECOPHORIDAE: *Antaeotricha schlaegeri* **TORTRICIDAE**: *Eucosma robinsonana, Amorbia humerosana.* **GEOMETRIDAE**: *Eumacaria madopata, Macaria bicolorata, Glena cribrataria, Hypomecis sp. (dark), Protoboarmia porcellaria, Epimecis hortaria, Melanolophia signataria, Lomographa vestaliata, Episemasia solitaria, Euchlaena amoenaria, E. marginaria, Pero ancetaria, Metarranthis obfirmaria, Plagodis phlogosaria, Besma quercivoraria, Eutrapela clemataria, Prochoerodes lineata, Chlorochlamys chloroleucaria, Dichorda irridaria, Hydriomena pluviata, Orthonama obstipata.* **SPHINGIDAE**: *Paonias myops.* **SATURNIIDAE**: *Actias luna.* **BOMBYCIDAE**: *Apatelodes torrefacta, Olceclostera angelica.* **NOTODONTIDAE**: *Clostera inclusa, Heterocampa umbrata, H. guttivitta, Nadata gibbosa, Schizura unicornis.* **EREBIDAE**: *Cisthene subjecta, Clemensia albata, Hyphantria cunea, Spilosoma congrua, Apantesis phalerata, Grammia placentia, Euerythra phasma, Idia americalis, I. aemula, Lascoria ambigualis, Tetanolita floridana, Colobochyla interpuncta, Hypsoropha hormos, H. monilis, Phyprosopus callitrichoides, Hemeroplanis scopulepes, H. habitalis, Lesmone detrahens, Gondysia similis, Caenurgia chloropha, Phoberia atomaris, Mocis marcida, Argyrostrotis anilis, A. flavistriaria, A. deleta, Ptichodis herbarum, Pseudanthracia coracias* (**COUNTY**), *Zale obliqua, Z. intenta.* **NOLIDAE**: *Nola phylla, Baileya levitans.* **EUTELIIDAE**: Paectes abrostoloides, P. oculatrix. **NOCTUIDAE**: *Acronicta lobeliae, A. hasta, A. afflicta, A. brumosa, A. tritona, Cerma cora, Comachara cadburyi, Balsa malana, Sympistis perscripta* (one of two known localities in the STATE), *Condica videns, Elaphria cornutinus, E. grata, E. georgei, Phosphila miseloides, Chytonix palliatricula, Morrisonia confusa, M. mucens, Iodopepla u-album, Ulolonche culea, U. modesta, Athetis tarda, Mythimna unipuncta, Leucania linita, L. extincta, Agrotis ipsilon, Feltia manifesta* (**COUNTY**).

Griffin Ridge WMA, 3 mi. SW of Ludowici, Long Co, April 2-3, 2015:
COSSIDAE: *Prionoxystus robiniae*, **CRAMBIDAE**: *Crocidophora pustuliferalis.* **GEOMETRIDAE**: *Iridopsis defectaria, Hypomecis* sp., *Episemasia solitaria, Euchlaena amoenaria, Metarranthis homuraria, M. obfirmaria,* **SATURNIIDAE**: Dryocampa rubicunda. **MIMALLONIDAE**: *Lacosoma chiridota.* NOTODONTIDAE: *Heterocampa umbrata, H. astarte.* **EREBIDAE**: *Virbia fergusoni, Spilosoma congrua, Idia americalis, Bleptina caradrinalis, B. minoralis, Renia fraternalis, Tetanolita mynesalis, Hypsoropha monilis, Phoberia atomaris, Mocis texana, Cissusa spadix, Panopoda rufimargo, P. repanda, Argyrostrotis flavistriaria, A. sylvarum, A. deleta, Cutina albopuncta, Metria amella, Zale obliqua, Z. declarans, Pangrapta decoralis, Hyperstrotia pervertens, Amolita fessa.* **NOLIDAE**: *Nola clethrae.* **NOCTUIDAE**: *Acronicta inclara, A. modica, A. brumosa, A. tritona, Harrismemna trisignata, Polygrammate hebraeicum, Comachara cadburyi, Iodopepla u-album, Chytonix palliatricula, Athetis tarda, Ulolonche culea, Leucania linita.*

Dixon WMA, SW of Laura Walker SP Lake, swampy area, Ware Co., April 3 – 4, 2015:
LIMACODIDAE: *Prolimacodes badia, Euclea delphinii.* **CRAMBIDAE**: *Parapoynx maculalis, Munroessa gyralis, M. icciusalis, Argyria auratella.* **GEOMETRIDAE**: *Macaria bicolorata, M. aequiferaria, M. distribuaria, Protoboarmia porcellaria, Glena cribrataria, G. cognataria, Cleora sublunaria, Ectropis crepuscularia, Anavitrinella pampinaria, Iridopsis vellivolata, Epimecis hortaria, Hypagyrtis unipunctata, Episemasia solitaria, Tacparia zallisaria, Euchlaena pectinaria, Metarranthis obfirmaria, Eutrapela clemataria, Orthonama obstipata,*

Costaconvexa centrostrigaria, Eupithecia matheri. **SPHINGIDAE**: *Dolba hyloeus, Isoparce cupressi.* **SATURNIIDAE**: *Dryocampa rubicunda, Actias luna.* **NOTODONTIDAE**: *Heterocampa biundata, H. gutivitta, Schizura leptinoides, S. badia.* **EREBIDAE**: *Spilosoma virginica, Apantesis phalerata, Idia americalis, I. aemula, Zanclognatha lituralis, Renia fraternalis, R. flavipuncta, Palthis angulalis, Colobochyla interpuncta, Hypena palparia, Phytometra rhodarialis, Cutina distincta, C. albopunctella, Argyrostrotis quadrifilaris, A. flavistriaria, A. sylvarum, A. erasa, A. deleta, Ptichodis vinculum, Parallelia bistriaris, Phyprosopis callitrichoides.* **NOCTUIDAE**: *Acronicta exelis, A. tritona, Polygrammate hebraeicum, Comachara cadburyi, Balsa labecula, B. malana, Callopistria granitosa, Condica claufacta* (**COUNTY**), *Iodopepla u-album, Morrisonia confusa, Leucania linda.*

Dixon WMA, NE of Laura Walker SP Lake, wooded area, Ware Co., April 3-4, 2015:
COSSIDAE: *Prionoxystus robiniae.* **GEOMETRIDAE**: *Macaria aemulataria, Digrammia eremiata, Glenoides texanaria, Cleora sublunaria, Anavitrinella pampinaria, Iridopsis vellivolata, Hypomecis* sp., *Epimecis hortaria, Melanolophia signataria, Episemasia solitaria, Metarranthis obfirmaria.* **SATURNIIDAE**: *Automeris io.* **LASIOCAMPIDAE**: *Artace cribraria.* **MIMALLONIDAE**: *Lacosoma chirodota.* **NOTODONTIDAE**: *Nadata gibbosa.* **EREBIDAE**: *Idia rotundalis, I. diminuendis, Zanclognatha lituralis, Renia fraternalis, R. flavipunctalis, Phytometra rhodarialis, Pangrapta decoralis, Argyrostrotis quadrifilaris, A. flavistriaria, A. sylvarum, A. erasa, Panopoda rufimargo, P. repanda, Mocis texana, Zale aeruginosa.* **NOCTUIDAE**: *Acronicta brumosa, A. tritona, Polygrammate hebraeicum, Comachara cadburyi, Callopistria cordata, Egira alternans, Athetis tarda.*

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John Hyatt reports the following that in coastal GA (McIntosh Co.) on May 20, Lance Durden and he looked for swamp skippers. They found (in old rice fields on *Pontederia* flowers) one specimen each of *Problema bulenta, Euphyes dukesi,* and *Euphyes palatka.* They also saw about 4,000 *Poanes viator*; the rarity of other skippers may be in part an artifact of the moderately good spring rains, which made extensive sampling of the flooded marshes impossible.

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

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

Ricky sends in the following report for Mississippi which had a very wet spring:

24 March 2015, 3.2 miles east of Lorman, Jefferson county, *Cyllopsis gemma gemma, Megisto cymela cymela*
29 April 2015, Camp Hood, BSA, Copiah county, *Pompeius verna sequoyah, Satyrium favonius ontario*
15 May 2015, Camp Hood, BSA, Copiah county, *Satyrium liparops, Eurema daira daira*
19 May 2015, Vicksburg, Warren county, *Catocala clintoni*
29 April 2015, Camp Hood, BSA, Copiah county, Polites verna sequoyah, Satyrium favonius Ontario
21 May 2015, 3.2 miles east of Lorman, Jefferson county, *Lytrosis unitaria (3m, 1f), Catocala ultronia, Haploa contigua*

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

The following selected butterfly records were submitted by Harry LeGrand. Records are from March through May 2015, except where otherwise indicated.

As with 2014, March was much cooler than average, setting back emergences of adults and thus the flight periods by about 10 days, though April and May were quite warm and thus the flight emergences were back to normal or ahead of normal by the end of May. And, as with most of 2013 and 2014, butterfly numbers and diversity continued to be quite low in the eastern half of the state, owing to the unseasonably cold late winter and early spring periods, often with some ice or snow. Again, observers from Winston-Salem and Charlotte westward often had good results. Skippers and swallowtails were in quite low numbers across most of the state, and even the normally common *Papilio glaucus* was uncommon over much of the state this spring. There were no reports of *Vanessa cardui*, but there were two reports of *Pyrisitia lisa* and one of *Agraulis vanillae,* both seldom reported until later in summer.

PIERIDAE:

Pieris virginiensis, David Campbell saw three in the foothills region of Polk on April 18; the species is primarily found in the mountains, though it does range into a few rich cove forests in the Piedmont foothills.

Pyrisitia lisa, rarely reported in spring, there were two such sightings this year. Gail Lankford and party saw three in Madison on May 13, and Dennis Burnette and Mark Rose saw one in Guilford on May 28.

LYCAENIDAE:

Atlides halesus, a very belated but important report was of one photographed at Shumont Mountain in Buncombe **(COUNTY)** on September 3, 2007 by Nora Murdock. There are only a few records of this species for the mountain region.

Satyrium kingi, an excellent find was three seen by David Campbell in a pine/oak heath area with *Symplocos tinctoria* – the hostplant – in Polk **(COUNTY)** on May 30. This species is very rare in the Piedmont and mountains, and this locale is the westernmost known for the state's Piedmont. Two were seen by Taylor Piephoff nectaring on *Castanea pumila* on the mainland of Ocean Isle Beach in Brunswick on May 31.

Satyrium liparops, the only spring season report was of one seen in Sandy Mush Game Land in Buncombe by Gail Lankford and party on May 30.

Satyrium favonius, the first recent record for Pender was one of the northern race (*S. f. ontario*) photographed by John Ennis on May 13 at Holly Shelter Game Land. Taylor Piephoff again had a few nectaring on *Castanea pumila* on the mainland at Ocean Isle Beach in Brunswick on two dates in late May, with three or four noted on May 31; these are individuals of the southern race (*S. f. favonius*), or at least "close" to this subspecies.

Callophrys irus, Larry Lynch found a colony at a sand ridge in Gates that had considerable amounts of *Lupinus perennis,* the hostplant at the site. He saw six individuals on April 18. Signa and Floyd Williams saw one in this area on the following day. Interestingly, the latter observers reported that they had found this species on the sand ridge in April 2014. These represent the first records of this species for the northern half of the state's Coastal Plain in over 30 years, though there is an old record for this county.

Parrhasius m-album, there were nine reports in spring 2014, but only two in the state this spring. One was photographed in the Craggy Gardens area of Buncombe by Rick Cavasin on May 18, and Taylor Piephoff saw one in the *Castanea pumila* "patch" in Brunswick on May 31.

Celastrina nigra, again the only report came from the state's best known colony, in Graham, where Owen McConnell saw three on April 24.

RIODINIDAE:

Calephelis virginiensis, a very good count for the first brood was 25 made by Rick Cavasin at a known site in Croatan National Forest in Carteret on May 8. Sadly, the species is seldom reported now from new sites, and it is mainly limited to managed pine savannas and flatwoods on conservation lands close to the coast.

NYMPHALIDAE:

Agraulis vanillae, very rare for the spring season was one seen by Mike Turner at Raleigh in Wake on May 29; the species is scarce in that county even in late summer and fall.

Phyciodes phaon, John Fussell reported a total of eight individuals at Rachel Carson Estuarine Reserve in Carteret on April 21. Only the second record for Pender was of one photographed under the bridge leading to Topsail Island by Rick Cavasin on May 8.

Phyciodes batesii maconensis, Richard Stickney was apparently one of the few people who looked for this local species this spring, finding a few at a known site in Clay on May 25, and a first recent record for Haywood, where he saw one along the Blue Ridge Parkway also on May 25.

HESPERIIDAE:

Thorybes confusis, Rick Cavasin had a very good count of five, documented with photos, from the Green Swamp in Brunswick on May 9.

Staphylus hayhurstii, notable for the upper Piedmont was one photographed by Richard Stickney along the Yadkin River at Elkin in Surry **(COUNTY)** on May 18.

Erynnis martialis, the only report of the season was from a known site in eastern Clay, where Mary Ann Friedman found two individuals on May 2.

Hesperia sassacus, a good count for so close to the southern end of the range was seven found by Richard Stickney in Clay on May 25.

Poanes hobomok, Harry LeGrand observed three in Stone Mountain State Park, in both Alleghany and Wilkes, on May 16. Though in the foothills, the species is not often reported below the Blue Ridge Escarpment in the state.

Euphyes dion, one was reported by D. Willis on June14, 2014 in Cabarrus **(COUNTY).** Harry LeGrand saw two in central Martin on May 28 for the first record of the spring brood for that county.

Amblyscirtes aesculapius, a good find for the spring season in the Piedmont was two adults seen by Gene Schepker along Salem Creek in Forsyth on May 2.

Amblyscirtes reversa, Richard Stickney had a very good count of six at Holly Shelter Game Land in Pender on April 26. One of the most significant records of the season was of two photographed in the Green River Game Land in the foothills of Polk on May 15 by Rick Cavasin. Though there is a previous record of the species for this county, that record was from the Piedmont as opposed to the Blue Ridge Escarpment, where there is just one other montane record in the state.

Megathymus yuccae, two adults were seen at Bakers Mountain in Catawba on April 7 by David Campbell, and he saw another adult near Westminster in Rutherford on the following day. He had found tents at these sites in previous years; the species is quite rare in the state's Piedmont province.

The following selected moth records were submitted by various observers:

HEPIALIDAE:

Sthenopis argenteomaculatus, 20/May. One individual was caught in a light trap by Ed Corey in a bog in Avery County. We now have records for this species from three counties in the mountains of North Carolina.

Sthenopis argenteomaculatus
(Photo by Ed Corey)

GEOMETRIDAE:

Lytrosis pergmagnaria, 12/May. One individual was collected in a light trap by Steve Hall at a monadnock dominated by Rock Chestnut Oak in Orange County. This is only the third specimen of this species from the North Carolina Piedmont, the other two having been photographed by Parker Backstrom at a site in Chatham County.

EREBIDAE:

Grammia placentia, 25/May. One female was collected at a sheet by Paul Scharf in Warren County. This is the first record in North Carolina from the Piedmont and the only one from non-Longleaf Pine habitat.

NOCTUIDAE:

Schinia mitis, 26/May. Several were collected by Bo Sullivan at an old field site in Carteret County. They appear to be most easily observed on flower heads between 7 and 9 in the morning.

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

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

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

This report is mainly concerned with a trip to east Texas during 10-18 April, 2015. The following localities are included:

(S) Sabine Co., TX, 6 mile vicinity, 10-12-IV-15 (Knudson & Bordelon)
(R) Rusk Co., TX, Martin Creek Lake SP, 13-15-IV-15 (Knudson & Bordelon)
(H) Hopkins Co., TX, Cooper Lake SP, 16-18-IV-15 (Knudson & Bordelon)

The beginning of the trip coincided with the onset of unusually heavy storms and excessive rainfall, which limited our activities. Several tornado outbreaks also occurred mostly in north Texas and Oklahoma. These conditions have continued and culminated with massive rainfall on Memorial Day weekend and beyond. Historic flooding has occurred in Houston, Dallas, Austin, and the TX Hill Country, with the loss of many lives and much property damage. We do not know of anyone in the TX Lepidoptera community that has been significantly impacted by this.

In addition to the list below, a recent new state record for a tortricid, *Episimus augmentanus* was documented by a clear photo, taken by Mike Rickard in Mission, TX, on 26-V-15. Mike identified the species, which was confirmed by myself. This moth occurs in central and south Florida.

List of records (associate them with the letter code shown above):

Tortricidae: *Ecdytolopha insiticiana* (S), *Cydia ninana* (H). This is the second TX record for *C. ninana*, which mostly occurs in southeastern AZ.
Thyriridae: *Pseudothyris sepulchralis* (H).
Crambidae: *Nealgedonia extricalis* (R, H).
Hesperiidae: *Atrytonopsis hianna*, east TX segregate (S). This occurs in Longleaf Pine Savanna and is highly local. *Amblyscirtes alternata* (S).
Pieridae: *Pieris rapae* (R). *Anthocharis midea texana* (H) late record.
Geometridae: *Timandra amaturaria* (R); *Anticlea multiferata* (R); *Dichorda iridaria* (R, H) (unusually common); *Eupithecia peckorum* (S).
Epiplemidae: *Callizzia amorata* (H).
Drepanidae: *Oreta rosea* (S).
Mimallonidae: *Lacosoma chiridota* (S).
Saturniidae: *Sphingicampa bicolor* (R, H); *Callosamia promethia* (S).
Sphingidae: *Hemaris diffinis* (R).
Notodontidae: *Litodonta hydromeli* (H); *Dasylophia anguina* (H).
Erebidae: *Virbia rubicundaria* (S); *Euerythra phasma* (H) common; *Euclidea cuspidea* (H) common; *Ommatochila mundula* (H).
Eutelidae: *Eutelia pulcherrima* (H).
Nolidae: *Baileya doubledayi* (S) a rare and local sp in TX.
Noctuidae: *Acronicta noctivaga* (R); *Agriopodes fallax* (H); *Leuconycta lepidula* (H); *Harrisimemna tristrigata* (H); *Callopistria mollisima* (H); *Leucania linita* (H).

Ed also sends in the following comment: "We (*Charles and Ed*) were in NE TX last week (*in April*), but not much worth reporting. I did get a beautiful and very special tortricid, *Cydia ninana*. Looks like a little firefly. My first, but preceded by Blanchard by 50 yrs., who got one at Lake Brownwood at about the same time of year. No others recorded from TX for this bug which mostly occurs in SE AZ."

Virginia: Harry Pavulaan, P.O. Box 1124, Herndon VA 20172, E-Mail: pavulaan@aol.com

Harry sends in the following comment and report for Virginia: "*As usual, nothing really new to report from here. This area is going downhill as far as leps goes. Maybe too much urbanization, too much roadside mowing and herbicides in the country, plus the gypsy moth aerial eradication spraying in the mountains has really taken a toll on overall lep numbers.*"

Celastrina lucia. 4/21/2015. Colony on top of Great North Mountain, near Hayfield, Frederick County, VA. doing very well, with dozens observed, netted for confirmation. This colony seems to be associated with Blueberries. No ladon or spring neglecta present.

Megisto cymela complex (type 1 spring flight). Larvae obtained from female of May 2014 grew slowly and attained large size by late August, stopped feeding, and then diapaused. Most overwintered in larval stage but some resumed feeding in late-September in laboratory conditions, pupated and produced adults October 3-November 5, 2014. This is clear evidence that the May flight cannot produce the July flight in the northeastern U.S. Remaining larvae were kept in refrigeration November-February and placed outdoors into a netted tray of lawn sod. Larvae must resume feeding in late winter in northern Virginia when native grasses begin resumption of growth. Several adults emerged May 18-26, coinciding exactly with natural emergence locally. [*Megisto cymela* type 2 summer flight larvae, obtained locally from eggs in July 2014 were handled similarly, but diapaused as much smaller larvae. Netted tray has not yet produced adults.]

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The Southern Lepidopterists' News is published four times annually. Membership dues are $25.00 annually. The organization is open to anyone, especially those with an interest in the Lepidoptera of the southern United States. Information about the Society may be obtained from Marc Minno, Membership Coordinator, 600 NW 34 Terrace, Gainesville, FL 32607, E-Mail: mminno@bellsouth.net, and dues may be sent to Jeffrey R. Slotten, Treasurer, 5421 NW 69th Lane, Gainesville, FL 32653.
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