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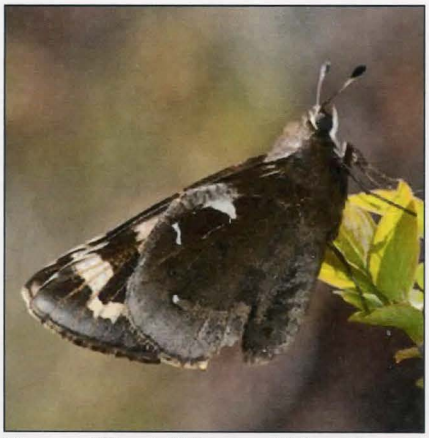
THE OFFICIAL PUBLICATION OF THE SOUTHERN LEPIDOPTERISTS' SOCIETY ORGANIZED TO PROMOTE SCIENTIFIC INTEREST AND KNOWLEDGE RELATED TO UNDERSTANDING THE LEPIDOPTERA FAUNA OF THE SOUTHERN REGION OF THE UNITED STATES (WEBSITE: www.southernlepsoc.org/)

J. BARRY LOMBARDINI: EDITOR

Stretching between the mountains and the sea, North Carolina offers up to butterfly-watchers a wonderful array of skippers, from the common and familiar to those special species that find the very edges of their range there, or, in one case, are found nowhere else on earth! In this issue of the Southern Lepidopterists' News we return to North Carolina with Parker Backstrom, who in the last issue presented a synopsis of the true butterflies of that state. In this issue he completes his short series by offering a summary of the *Hesperiidae*. The conclusion to Parker's two-part presentation **begins on page 51**.



Yucca Giant-Skipper (*Megathymus yuccae*) [2008-Apr-19 – Pender Co NC]. Looking for love in all the right places, this Yucca Giant-Skipper was found patrolling near a stand of *Yucca filamentosa* in the Holly Shelter Game Land.

Southern Skipperling (*Copaeodes minima)* [2004-Aug-26 – Harnett Co NC]. The charming, if inconspicuous Southern Skipperling is a Lilliputian, even by skipper standards. Finding this species is sure to brighten up any day in the field. This pair was spotted just outside the entrance to Raven Rock State Park.

Common Sootywing *(Pholisora catullus*) [2004-Aug-05 – Wake Co NC]. Upon close examination the drab-at-first-glance Common Sootywing is actually a study in delicate beauty. After sheltering during a summer rain storm, this male quickly resumed his rounds at the J. C. Raulston Arboretum in Raleigh.

HELLO MEMBERS OF THE SL SOCIETY:

The Camp Salmen Nature Park Monarch Waystation garden project dates are confirmed! We are in the process of organizing the May 13th event – *"Nature Celebration"* to unveil the completed Monarch garden. It will be a day of educational information exchange! Nine nature experts have already signed up to chat with folks, answer questions and hand out information. I am trying to get Master Gardeners, Master Naturalists plant societies, 4-H club, and other folks involved to draw a crowd. I really would love to have one or two of your club members to volunteer their time on Saturday May 13 to be present and promote the Southern Lepidopterists' Society! The pavilion provides shelter and bathrooms. Table will also be provided.

Dan Gill will be helping me to promote this via Channel 4 Thursday morning news, WWL Saturday radio show, and Dan's Friday Times Picayune articles. NOLA.com will also be covering these projects. There will be lots of good free advertising for your organization. This event is also already listed on the Louisiana North Shore website and will be printed in the spring brochure that is sent to all the new-comers to the area and to all the local hotels. Please take advantage of this great opportunity to promote your club!

The list of nature experts already signed up:

BUGS: Zack Lemann: Audubon Institute- Insectarium
PLANTS: Dan Gill: LSU Ag Center
TERMITES/ANTS: Gregg Henderson, LSU Ag Center
HUMMINGBIRDS: Nancy Newfield
CATERPILLARS: Linda Auld
BUTTERFLIES/SKIPPERS: Craig Marks
ASTRONOMY: Barry Simon
FROGS, SNAKES, TURTLES: Russell Harris
FERNS: Mary Elliott McCormick

Societies already signed up:

CROSBY ARBORETUM: Amy Nichols
CANPS: Helen Peebles
MONARCH WATCH tagging program: Missy Kapsos
MONARCH WATCH "Online Milkweed Market": Emily Taylor
PONTCHARTRAIN ASTRONOMY CLUB: Barry Simon

STILL NEED Volunteers for:

Southern Lepidopterist Society
LA Master Naturalists
LA Master Gardeners
Baton Rouge Audubon Society
Louisiana Native Plant Society
Fish expert
St. Tammany 4-H club
Connections with St. Tammany groups

You can check out the Friends of Camp **Salmen.org** for more information about the facility. Bart Henderson will be posting all the event dates on the calendar. Feel free to forward this to anyone you think would like to participate.

Linda Auld can be reached at **nolabuglady@gmail.com** or at her store, Barber Laboratories, at (504) 739-5715.

Your efforts are truly appreciated!

Thank you!
BugLady

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HELLINSIA COSTATUS (BARNES & LINDSEY, 1921), A NEW PLUME MOTH RECORD FOR THE GEORGIA FAUNA (LEPIDOPTERA: PTEROPHORIDAE)

BY

DEBORAH L. MATTHEWS AND JAMES K. ADAMS

The plume moth genus *Hellinsia* (Tutt) is represented by 59 described species in the Nearctic Region. Of these, 19 species belong to a distinct Asteraceae stem boring clade characterized by plain cream to beige adults, larvae with a distinct circular anal plate, and characters of male and female genitalia (Matthews 2006, Matthews unpublished data). The Georgia fauna includes four stem borers, *Hellinsia balanotes* (Meyrick), *H. kellicottii* (Fish), *H. chlorias* (Meyrick), and *H. unicolor* (Barnes & McDunnough). *Hellinsia unicolor*, aptly named, can be separated from the others by the absence of tiny dark scale spots marking the base of the forewing cleft and the terminus of the forewing veins. Fresh specimens of *H. unicolor* (see Fig. 10, Matthews 2010) have tan to gray scaling running along veins of forewing lobes, while worn adults appear more "unicolorous".

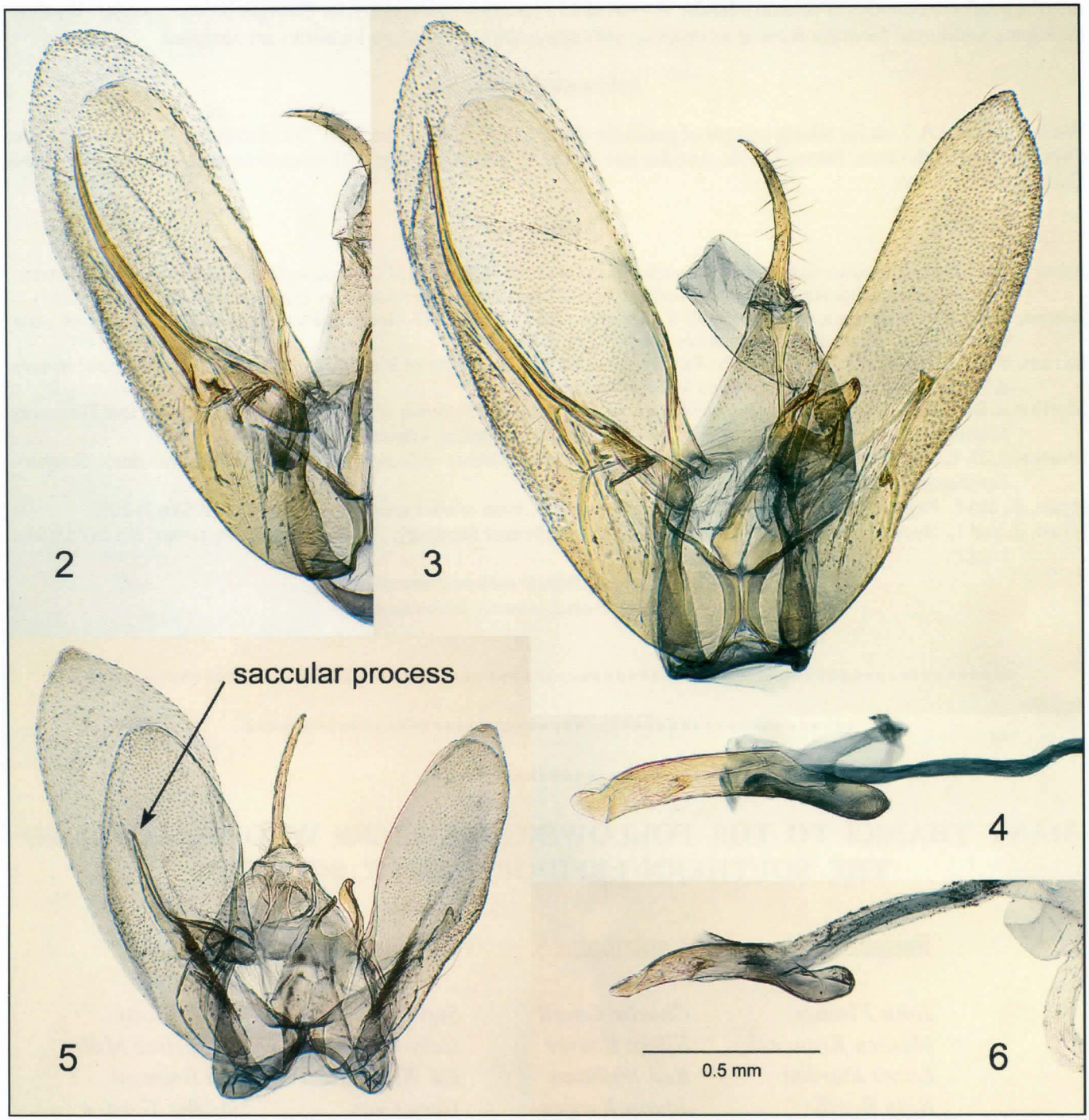
While checking the gender on recently collected Georgia specimens to be catalogued and determined as *H. unicolor*, DLM was surprised to discover a rather large left valve saccular process on one specimen where the valvae were partly open on the pinned specimen. Having previously dissected and confirmed the identity of *H. unicolor* from Southern Georgia, including recent material from Sapelo Island (Figs. 5–6) (Adams et al. 2015), DLM noted the odd specimen was from Bartow County in Northern Georgia. Both specimens from this location were dissected and subsequently identified as *Hellinsia costatus* (Barnes & Lindsey) (Figs. 1–4) by comparison with previously identified material and the male genitalia figured in Barnes and Lindsey (1921).

Fig. 1. Adult male *Hellinsia costatus* and associated data labels.

Hellinsia costatus was described from seven specimens including the holotype from Tulare County, California. In addition, Barnes and Lindsey (1921) mentioned a USNM specimen from Vineyard, Utah, which has been dissected and likewise confirmed as *H. costatus* by DLM. Other specimens examined and confirmed with dissections are from Uintah County, Utah, and Lander, and Nye Counties in Nevada. Additional unconfirmed records are from USA: Colorado and CANADA: British Columbia. The two Georgia specimens, both males, were collected in light traps 27 August 2016, 5 mi. ESE of Salacoa Rd., S of Salacoa Creek by JKA. These specimens not only represent a new state record for Georgia, but are also the only known *H. costatus* specimens from the Eastern USA.

While morphological characters indicate this species is most likely a composite stem borer, larval host species for *H. costatus* are unknown. The Georgia location where the *H. costatus* specimens were collected is fallow pastureland, with wooded hillsides to the east, and a couple of creeks running through the pasture. The habitat is indeed home to a rich variety of composites, including *Eupatorium, Eutrochium, Polymnia, Vernonia, Helianthus, Solidago* and several others.

The addition of *H. costatus* to the Georgia plume moth fauna brings the total number of species to 31. An updated list of the Georgia fauna is available online (Adams 2017) including *H. costatus* and recent records from surveys of



Figs. 2-6. Male Genitalia. 2) *Hellinsia costatus* left valve of Georgia: Bartow Co. specimen, slide DM 1359; 3) valvae of second Bartow Co. specimen illustrated in Fig. 1, slide DM 1752; 4) phallus removed from same individual; 5) *Hellinsia unicolor*, valvae of specimen from Georgia: McIntosh Co. (Int. of Middle Rd & E-W Autobahn 5-6 August 2016 L.A. Durden, slide DM 1358); 6) phallus removed from same individual. Images were captured using a Canon Rebel T3i digital camera (Canon USA, Inc., Lake Success, NY) mounted on a Zeiss Axiophoto (Carl Zeiss Inc., Thornwood, NY) transmitted light microscope in conjunction with Canon EOS Utility software.

Sapelo Island (Hyatt 2014, Hyatt and Durden 2015, Adams et al. 2015). Surveys of neighboring Alabama are incomplete. However, Mississippi, similar to Georgia in latitudinal range, and also with coastal plain habitats has a total of 32 recorded Pterophoridae species (Matthews 2010). Georgia and Mississippi currently have 22 species in common. Nine species occur in Georgia which are not yet recorded from Mississippi, and likewise, Mississippi has 10 species not yet recorded in Georgia. With a larger area (by 23%) than Mississippi and additional habitats from the Blue Ridge, Valley and Ridge, and Piedmont Physiographic Provinces, we expect additional Georgia species shared and not shared with Mississippi. Of the 42 species currently known from Florida (Matthews, unpublished data), four occur in Northern Florida which have not yet been recorded in Georgia or Mississippi and may extend

into the southern counties or coastal islands. A total of 45 Pterophoridae species for Georgia is conceivable. We thus anticipate additional Georgia records as ongoing surveys continue and more localities are sampled.

Acknowledgements

We thank Terry A. Lott for taking images of genitalia slides and reviewing the text. We also thank John Hyatt, Lance Durden, Brian Scholtens, James Taylor, and the late Irving L. Finklestein for their contributions to knowledge of the Georgia moth fauna.

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MANY THANKS TO THE FOLLOWING MEMBERS WHO DONATED TO THE SOUTHERN LEPIDOPTERISTS' SOCIETY

Sustaining	Contributor	Benefactor	Benefactor+
John Fischer	*Charlie Covell*	*Steve Mix*	*Mack Shotts*
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Lance Durden	*Ben Williams*	*Ed Knudson*	*Bob Belmont*
Billy Boothe	*Joann Kargas*	*Gary Goss*	*Charles Garner*
John Snyder	*Hank Leibee*	*Dave Iftner*	*Candace Sarikonda*
Lawrence Hribar	*Mark Simon*	*Rosemary Seidler*	*Alma Solis*
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Bill Russell			
J. Bo Sullivan			
Jeff Trahan			

POLLINATORS GET A HELPING HAND FROM BASF

BY
GARY NOEL ROSS

More often than not, environmentalists and industry don't see eye to eye. And Louisiana is often in this infamous spotlight. I, however, have been privileged to experience just the opposite. In the past I reported (see Ross 2010) how oil/gas drilling rigs and production platforms in the northern Gulf of Mexico have provided resting platforms during inclement weather for spring and fall migratory butterflies (and birds). And over the last decade or so, various large public, private, educational, and governmental institutions, corporations, and industrial complexes, have created wildlife friendly mini-habitats on their grounds. (Even First Lady Michelle Obama installed a "White House Pollinator Garden" in 2014 as an addition to the sixth annual "White House Kitchen Garden" to furnish food for the nearby honey bee colony and for transient Monarch butterflies and other pollinators.) Now I can document how a major chemical company, BASF ("We Create Chemistry") in my natal south Louisiana, is befriending the Monarch butterfly and pollinators in general.

Fig. 1. Entrance to BASF, southeast of Baton Rouge. The chemical company is the largest in the world. The Geismar facility occupies 2,300 acres and boasts 1,100 individual employees, 700 contractors. Only twenty percent of the land is developed, the remainder is maintained in natural bottomland hardwood forest as a wildlife preserve.

BASF [*Badische Anilin und Soda Fabrik*, translation: Baden (historical German territory and city), Aniline and Soda Factory] is a German-based company founded in 1865 to specialize in dyestuffs. Today BASF is the world's largest chemical company—bigger than DOW and DUPONT combined. The company employs 112,000 people in more than 80 countries—with nearly 17,500 employees in 150 locations in North America alone. While global headquarters are in Ludwigshafen, Germany, the North American regional office is in Florham Park, New Jersey.

Odds are, though, if you are under twenty years of age, you are unfamiliar with the name BASF. This is because BASF keeps a relatively low profile. To quote from a BASF advertisement: "Through science and innovation, we're

responding to the changing world. By developing new products that solve new challenges, we empower our customers to meet the current and future needs of society. From homes to cars to running shoes, we create chemistry that creates great things." Common products include paints and plastics for automobiles and furniture, diapers, adhesives and inks, pharmaceuticals, as well as herbicides and pesticides.

The company currently is working with LSU to create the "BASF Sustainable Living Lab" in the newly constructed Patrick F. Taylor Hall for the College of Engineering. The lab creates innovative space that promotes problem-based teaching and research focused on sustainable solutions to global challenges. The first researcher selected to reside in the lab aims to develop technology that uses visible light (not ultraviolet) to disinfect water in a portable system for use in the developing world.

In 1992, BASF was one of the signees to the United Nations Conference on Environment and Development (Rio de Janeiro Earth Summit). Represented by 172 governments, the conference addressed such issues as climate change, reduction of toxic compounds being released into the environment, alternative sources of energy, a new reliance on public transportation, Earth's decreasing supplies of fresh water, environmental degradation to the lands of indigenous peoples, and declining biological diversity.

Fig. 2. Playground area for families of employees and contractors associated with BASF. PHOTO: BASF, October 10, 2015.

I became acquainted with BASF through my local newspaper in a feature article: "Habitat created for butterflies: BASF space created to protect endangered monarchs." My attention piqued, I contacted Blythe Bellows Lamonica (Communications Manager for BASF's Southeast Regional Communications Hub). We scheduled my first visit for Friday September 30, 9:00 AM.

Fig. 3. Celebration of "Lunar New Year," or "Year of the Monkey" to honor Asian employees and their families. Highlight was a traditional Chinese lion dance. PHOTO: BASF, February 4, 2016.

Blythe Bellows Lamonica is a young executive with an infectious smile. She works closely with Silvia Medrano, Communications Specialist, and a college-student communications intern, Brenna Vial. I learned that BASF in Geismar occupies 2,300 acres of which only 20 percent are developed. The site is environmentally friendly, working in partnership with local and state environmental agencies. When I asked Miss Vial why she enjoyed interning at BASF, she replied: "From the time you wake up in the morning to the time you go to bed at night, you are benefiting from one or more BASF chemicals. You can't get much better than that."

Fig. 4. "Easter Egg Hunt" for families of employees and contractors. Annual event was organized by BASF's Employee Activities Association. PHOTO: BASF, March 19, 2016.

Fig. 5. Halloween celebration for families of employees and contractors. PHOTO: BASF, October 29, 2016.

Fig. 6. The "BASF Kids Day Safety Relay Team" proudly displaying their CERTIFICATES OF PARTICIPATION. PHOTO: BASF, June 17, 2016.

Fig. 7. Ribbon cutting ceremony for new asphalt "Walking Trail" installed for employees and contractors. PHOTO: BASF, April 4, 2016.

Fig. 8. Fourth annual "BASF Retiree Club Crawfish Boil" in the picnic grounds near the new garden. The event was an acknowledgement of the hard work and dedication provided by former BASF employees. Other events are held throughout the year to maintain relationships with retirees. PHOTO: BASF, April 12, 2016.

Fig. 9. Newly installed "Butterfly and Pollinator Garden": 1009 square feet and bordered by 523 square feet of gravel walkway. Consultations involved a landscape architect, a B.R. garden center, and the site supervisor. PHOTO: BASF, March 2, 2016.

Fig. 10. Crew of employee volunteers responsible for construction of new garden. PHOTO: BASF, April 23, 2015.

Fig. 11. Dedication ceremony for "Butterfly and Pollinator Garden," April 23, 2015. Employees gathered to release 150 Monarch butterflies. Number was chosen to celebrate the 150th anniversary of BASF and its commitment to a sustainable future. PHOTO: BASF, April 23, 2015.

Fig. 12. A Monarch butterfly release at the "Monarch Waystation" in the new garden. Visitors were Agriculture Business Customers and their families en route to the "New Orleans 2016 Commodity Classic," America's largest agricultural trade show. PHOTO: BASF, March 2, 2016.

Fig. 13. Sign identifying entrance to "Butterfly and Pollinator Garden" in recreational area and near Administration Building.

Fig. 14. Blythe Bellows Lamonica describing elements of garden sign "The Importance of Pollinators." September 30, 2016.

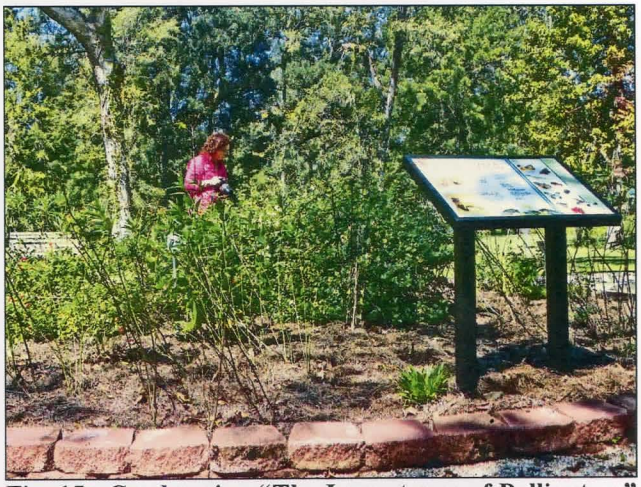

Fig. 15. Garden sign "The Importance of Pollinators" with Blythe Bellows Lamonica in Background. September 30, 2016.

Fig. 16. Overview of garden following full season of growth. Blythe Bellows Lamonica (Communications Manager for BASF Southeast Regional Communications Hub), far right, and Silvia Medrano (Communications Specialist) are in background. September 30, 2016.

Fig. 17. Blythe Bellows Lamonica photographing lantana (*L. camara*) in garden. September 30, 2016.

Fig. 18. Brenna Vial (college student Communications Intern) and garden sign "The importance of Pollinators." September 30, 2016.

Fig. 19. Signs identifying garden as an official "Monarch Waystation" (Monarch Watch program) and a "Certified Wildlife Habitat" (National Wildlife Federation program).

Fig. 20. Close-up of sign describing Monarch butterfly life cycle and the butterfly's epic migrations.

BASF has had a presence in Louisiana for nearly 60 years. The company operates four sites: Geismar, North Geismar, Zachary, and Vidalia. Geismar (Ascension Parish) is located roughly 25 miles southeast of downtown Baton Rouge and about 60 miles northwest of New Orleans. The site contains 24 production units, including North America's only formic acid production facility. Units produce chemicals that serve as building blocks for hundreds of everyday consumer and industrial products. Nearly 1,100 full-time and 700 contract employees work at the Geismar site, making it among the largest commercial employers in Louisiana and the largest BASF manufacturing site in North America.

BASF Geismar is among at least two dozen major chemical facilities located in what Louisiana residents commonly refer to as the "Chemical Corridor," a span along River Road between Baton Rouge and New Orleans noted for a concentration of chemical plants. But when you approach BASF on highway LA 30 from the Tanger Mall (Exit 177, I-10) south of Baton Rouge, there is no hint that you are approaching an industrial mega-plex. The entrance to BASF is identified by a modest concrete-based sign of simple black on white within a small foundation garden. No venting stacks. No industrial sounds. No chemical smells. From the entrance, the road bisects a natural dense forest where gray moss-festooned trees form a canopy above fan-like green palmettos. And all of this before even the first building is sighted. (Turns out only administrative and engineering buildings are located within the front grounds. Production facilities are concentrated in the rear of the property, thus shielded from the public by a buffer of greenery.)

BASF has never marginalized its relationship with its employees. Consider: The grounds of the Geismar facility feature an asphalt walking trail, substantial picnic grounds that include an all-weather cooking/dining space, a mowed field for ball sports, and a children's playground. These are to benefit the company's ample employees and contract workers—some of which travel each day from as far away as New Orleans and Lafayette. Additionally, outdoor cook-offs and family activities are regular events throughout warm months.

BASF Geismar has recently added a new fraternal enterprise: "Butterfly and Pollinator Garden." That the facility would be interested in such a project was a no-brainer. After all, BASF historically espouses a philosophy of sustainable environment. Couple this with a national news media blitz decrying the plight of the iconic Monarch butterfly and its storied migration as well as the alarming decline in honey bees known as "Colony Collapse Disorder." Result? Flashpoint! BASF committed its international resources to lend a helping hand to pollinators.

For instance, in the United States, BASF developed what it coined the "Living Acres" program. Here BASF works with farmers to educate them in the importance of planting native wildflowers (especially milkweeds) on less fertile lands that can easily be removed from agriculture. Such "flower strips" provide pollinators, seed eating birds, and an assortment of insects, arachnids, and herbivorous mammals, with a sumptuous banquet. At the same time, because the Monarch butterfly uses milkweed as its exclusive plant for reproduction, the strips provide this beleaguered butterfly with additional breeding sites. If additional small piles of organic rubbish (cut grass/shrubbery, pruned

Fig. 21. Monarch (*Danaus plexippus*), female, nectaring on lantana in the garden. The Monarch was the second most common butterfly in the garden during my September and November 2016 visits.

Fig. 22. Monarch, male, resting on sunny leaf. Contrasting colors warn potential predators that the butterflies are distasteful.

twigs, limbs, and roots, for examples) are spaced throughout this "natural zone," the dead debris creates foraging and nesting habitat for fungi, bacteria, insects, and small mammals. Finally, the erection of bird nest boxes and perches encourages our avian friends to repopulate surrounding lands. "Living Acres" is proving to be a win-win for all.

Fig. 23. Monarch larva (caterpillar) feeding on Mexican/tropical/bloodflower milkweed (*Asclepias curassavica*), a species native to tropical America. Toxins ingested when feeding render the caterpillars distasteful to most vertebrate predators.

Fig. 24. Monarch larva in an attached/suspended "J position" preparing for its metamorphosis into a pupa (chrysalis). PHOTO: BASF, September 30, 2016.

Fig. 25. Monarch chrysalis. Coloration and markings serve to camouflage against predators. Stage lasts usually 7-10 days. Photograph staged.

Fig. 26. Monarch chrysalis revealing developing butterfly inside. Photograph staged.

Fig. 27. Monarch butterfly emerging from chrysalis. Butterfly will rest for wings to dry for 1-2 hours before taking flight. Photograph staged.

Second, BASF globally established a program called "Farm Network" on fifteen farms in seven countries throughout Europe. Under this heading, BASF works with independent farmers, organizations for environmental protection, universities, research institutes, and assorted companies to develop innovations that replace traditional farming. Concerns include: monitoring of numbers of birds, pollinators and other beneficial insects, management of water reserves, and treatments of soil. The overall goal is to make farming a sustainable and profitable resource well into the future.

But, back to Geismar. Management at BASF reached out to Lamonica to spearhead the incipient garden. She in turn tapped Matt Jobe, the BASF site supervisor for ground's landscape and an employee of TURF-SCAPE, a well-established landscape company specializing in commercial and industrial sites. With assistance from John Pulliam (landscape architect) and Michael Maranto (Garden Specialist, CLEGG'S NURSERY) a free-form design and a list of appropriate plants were finalized. The signature element would be a "Monarch Waystation," a specialty garden registered and certified with MONARCH WATCH—a national organization that promotes landscapes that maximize Monarch feeding, reproduction, and migration. Finally, a cadre of enthusiastic employees volunteered to perform much of the actual labor.

In short order, the nascent "Butterfly and Pollinator Garden" spanned 1009 square feet, skirted by another 523 space of gravel walkway. The "green space" is within easy walking distance from the administrative building and

Fig. 28. Two Common Buckeye butterflies (*Junonia coenia*) on beggar-ticks/Spanish needles/bidens (*Bidens pilosa*). Host plants: especially plantains, snapdragons, foxglove, false foxglove, summer snapdragon (*Angelonia*), firecracker plant/fountainbush (*Russelia*). *Bidens* was not planted, but a volunteer. Flowers are rich in nectar. PHOTO: BASF, September 30, 2016.

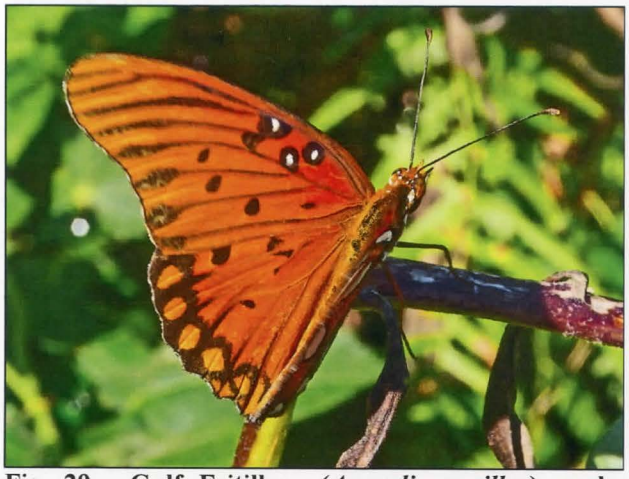

Fig. 29. Gulf Fritillary (*Agraulis vanillae*), male, basking on a leaf. Species was the most common butterfly in the garden during my September and November 2016 visits even though *Passiflora* vines, the host plants, had not been included as yet.

Fig. 30. Gulf Fritillary, female, nectaring on lantana. Female is less brightly colored than the male. Lantana is a favorite source of nectar for most butterflies in Louisiana.

outdoor recreational facilities for employees and their guests. At the dedication in late summer 2015, the employees gathered to release 150 Monarch butterflies to celebrate the company's 150th anniversary and its commitment to a sustainable future. To quote Lamonica: "From our standpoint as a company, sustainability and environmental stewardship are at the core of our operations."

When I visited in September 2016, the plants had experienced more than a year of growth. Most varieties were doing well, and butterflies and bees were common. Nectar/pollen rich plants (as well as a few butterfly host species) included: buddleia (butterfly bush), coral honeysuckle (*Lonicera sempervirens*), hibiscus, lantana, marigolds (*Tagetes*), pawpaw tree (*Asimina triloba*), pentas, petunias, pinks (*Dianthus*), purple coneflower (*Echinacea*), sasanqua camellia, beggar-ticks/Spanish needles/bidens (*Bidens*), vitex/chaste tree (*Vitex*), zinnias (*Zinnia*), and several species of milkweed (*Asclepias, Calotropis*).

The garden is identified by an eye-catching sign near a small paved parking lot. Two small oleander bushes *(Nerium oleander*) flank the entrance to a long gravel pathway that connects the parking area with the actual garden beyond. In the surrounding lawn, five young citrus (satsuma, lemon, kumquat) and two fig trees have been planted. Visitors in the not-too-distant future will be able to pick a natural treat to enhance their experience. (As lagniappe, the citrus trees will serve as hosts, i.e., reproductive sites, for the Giant Swallowtail butterfly.) In the actual garden, waist-level signs provide information on the "Importance of Pollinators" and "The Monarch Butterfly." Smaller ground-level postings identify the garden as a "Monarch Waystation" with MONARCH WATCH and a "Certified Wildlife Habitat" with the NATIONAL WILDLIFE FEDERATION. Nearby, wooden benches provide resting sites for leisurely viewing.

On point, too, is a ten-foot chain-link fence topped with barbed wire. The fence cordons off the manicured recreational areas from the adjoining bottomland hardwood forest—the common vegetation type for the lower Mississippi River flood plain. Typical trees within the forest include: ash (*Fraxinus*), Drummond red maple (*Acer*), hackberry (*Celtis*), oaks (*Quercus*), pecan (*Carya*), and sweet gum (*Liquidambar*). There is a heavy ground layer of dwarf palmetto (*Sabal minor*). (Fencing keeps the abundant white-tailed deer from invading the formal landscapes and nibbling flowering plants.) A 20-30 foot strip of unmowed land borders the fence. This fencerow serves both as a drainage swale and as habitat for seasonal wildflowers as well as perennial flowering bushes and vines. Examples include: American beautyberry/French mulberry (*Callicarpa americana*), anglestem primrosewillow (*Ludwigia leptocarpa*), boneset (*E. perfoliatum*), blue mist flower (*Conoclinum coelestinum*), blue/white asters (*Aster*), creeping spot flower (*Spilanthes americana*), cypress-weed (*E. capillifolium*), goldenrod (*Solidago*), lizard's tail (*Saururus cernuus*), Southern dewberry (*Rubus trivialis*), Virginia crownbeard (*Verbesina virginica*), and white snakeroot

Fig. 31. Pair of Gulf Fritillary butterflies mating. Silvery coloring on undersides is extremely reflective and acts to confuse predators. PHOTO: BASF, September 30, 2016.

Fig. 32. Fiery Skipper butterfly (*Hylephila phyleus*), female, feeding on beggar-ticks.

Host plants for the Fiery Skipper are grasses, especially common Bermuda (*Cynodon dactylon*). PHOTO: BASF, September 30, 2016.

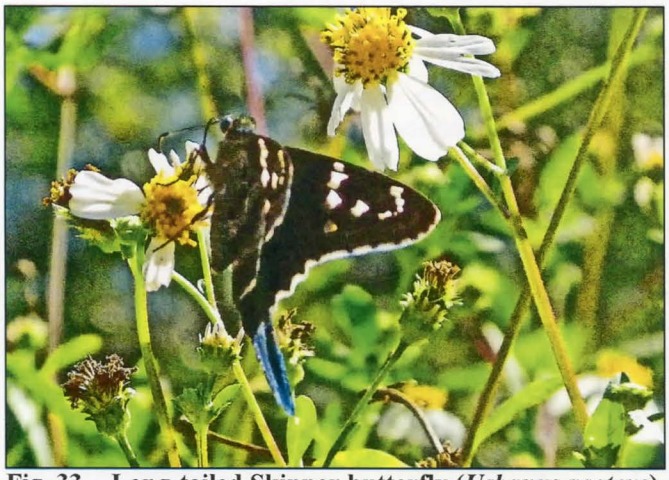

Fig. 33. Long-tailed Skipper butterfly (*Urbanus proteus*), feeding on beggar-ticks. This butterfly was the third most common species in the garden in September and November 2016. Host plants are leguminous vines—native, ornamental, and agricultural.

Fig. 34. Tropical Checkered Skipper butterfly (*Pyrgus oileus*), male, nectaring on beggar-ticks. Host plants are mallows—native and ornamental. A related/similar species, Common Checkered Skipper (*Pyrgus communis*), is also common in LA. PHOTO: BASF, September 30, 2016.

Fig. 35. Pair of Little Yellow butterflies (*Eurema lisa*), (male, upper; female, lower) on blue mist flower (*Conoclinum coelestinum*). Plant was common in the fencerow near the garden. Host plants are various *Cassia*, especially native partridge pea and ornamental shrub/small tree cassias. Photograph staged.

Fig. 36. Cloudless Sulphur (*Phoebis sennae*), male, securing nectar on ironweed (*Vernonia fasciculata*)—common fall wildflower in disturbed places and in the fencerow near the new garden. Host plants: various *Cassia*, especially native partridge pea and ornamental shrub/small tree cassias.

Fig. 37. Cloudless Sulphur (female), dorsal surface. Females are more yellow than males. Photograph staged.

Fig. 38. Pearl Crescent (*Phyciodes tharos*), female, nectaring on lantana in typical pose in sun. Host plants are asters. Photograph staged.

Fig. 39. Matt Jobe's assistant spreading mulch to help maintain soil moisture, reduce weeds, and serve as foundation for poppy seeds. November 22, 2016.

(*Eupatorium rugosum*). Several solitary trees punctuated the fencerow. These include black willow (*Salix nigra*), black locust (*Robinia pseudoacacia*) and live oak (*Quercus virginiana*). All trees hosted a heavy load of thick-stemmed vines such as muscadine (*Vitis rotundifolia*), trumpet creeper (*Campsis radicans*), and Virginia creeper (*Parthenocissus quinquefolia*). The fence itself supported a health growth of swamp leather flower (*Clematis crispa*), which at the time of my visit, was in seed. (Surprisingly, I spotted no poison ivy–*Toxicodendron radicans*.) The plants within the fencerow—as well as those within the bordering forest—provide additional pollinator-friendly and host plants outside the formal garden.

During a period of nearly two hours I observed 13 species of butterflies visiting the garden and surrounding grounds. These are:

Gulf Fritillary (*Agraulis vanillae*)—abundant, at least 25
Monarch (*Danaus plexippus*)—abundant, at least 20
Long-tailed Skipper (*Urbanus proteus*)—8
Carolina Satyr (*Hermeuptychia sosybius*)—5
Buckeye (*Junonia coenia*)—2
Little Yellow (*Eurema lisa*)—2
Pearl Crescent (*Phyciodes tharos*)—2
Fiery Skipper (*Hylephila phyleus*)—2
Whirlabout Skipper (*Polites vibex*)—2
Common Checkered Skipper (*Pyrgus communis*)—2
Cloudless Sulphur (*Phoebis sennae*)—2
Ocola Skipper (*Panoquina ocola*)—1
Horace's Duskywing Skipper (*Erynnis horatius*)—1

At this same time, I observed one Ruby-throated hummingbird (*Archilochus colubris*) probing the flowers of vitex.

Matt Jobe stopped by while I was viewing the garden. I, of course, complimented the forty-ish gentleman for his diligence. I did, however, offer a few suggestions to bolster the garden for the impending winter and spring. These included: (1) add three 8-10 foot metal trellises outside the actual confines of the garden. Each would serve as a support for a passionflower vine (the host for Gulf Fritillary and Variegated Fritillary butterflies) planted at its base; (2) add several salient host plants for butterflies (fennel, candlestick bush, snapdragons, for examples); (3) sow poppy

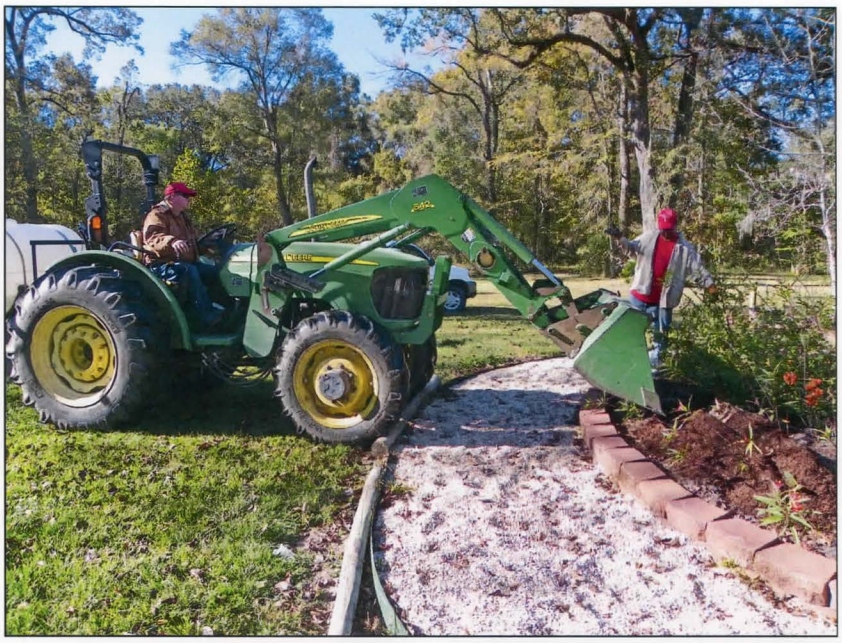

Fig. 40. Augmenting garden with pine bark mulch. Matt Jobe (Site Supervisor) on tractor. November 22, 2016.

Fig. 41. Matt Jobe (in the (foreground) and assistant spreading new mulch. Purple flowers are petunias. November 22, 2016.

seeds in the fall to produce a bumper crop of pollen-rich flowers for early spring bees; and (4) trim a nearby spindly gum and water oak tree in order to increase morning sunlight in the garden.

During November, I revisited the BASF garden on two occasions. My primary concern was to work with Matt Jobe, the site supervisor, to implement the suggestions I had communicated earlier. In the end, we augmented the garden with a topping of five cubic yards of fresh pine bark mulch to serve as a foundation for the poppy seeds that needed to be sowed at this time. (Poppies do not produce nectar, only extraordinary amounts of pollen. While the flowers are unattractive to butterflies, this pollen serves an important function for both native and introduced bees. For example, the octane-rich pollen allows bees, which are emerging from their winter hibernation, to begin restocking their food reserves that were depleted over the previous winter. In turn, the fresh food stimulates the bees to initiate a new generation.) Because poppy seeds are some of the most miniscule in the plant world, I mixed the seeds with several cups of dry masonry sand to dilute the seeds before sowing. At this same time, we collected seeds from beggar-ticks and spread these throughout much of the fencerow.

In conclusion, each time I came away from a visit with BASF I radiated a smile. Even weeks later, comments from two employees continue to reel within my mind. First, from a leisurely conversation with Matt Jobe: "I enjoy

Fig. 42. Dried pod of poppy (*Papaver somniferum*) and seeds (3,000-4,000/pod). Seeds were sowed in freshly spread pine bark mulch on November 22, 2016 for an anticipated bloom in April 2017. INSET: Microscopic view of tiny poppy seeds. Viability is nearly 100 percent and germination occurs in about three weeks.

Fig. 43. Poppies in flower. Colors include red, pink, rose, salmon, purple, and lavender. Flower form varies from single to double to "pom-pom." Flowers produce extraordinary amounts of pollen, important food for honey bees and relatives especially in early spring. Photograph from author's garden (April 2016).

Fig. 44. Fencerow near garden. Venue is good habitat for native wildflowers. Anglestem primrosewillow (*Ludwigia leptocarpa*) was blooming in September. Its yellow flowers were particularly attractive to Cloudless sulphur butterflies. Formal garden is about 50 feet to the left; natural woodland and fence are visible in upper right. INSET: Carolina Satyr (*Hermeuptychia sosybius*) resting on dislodged Spanish moss (*Tillandsia usneoides*), a common epiphyte on many oak trees. Butterflies fly low to the ground in shady areas searching for host plants (grasses such as Bermuda) and nourishment (decaying fruit, oozing sap, and wet soil.)

working here at BASF. I have been in the commercial-industrial landscape business for ten years—the last eight here at BASF. I can honestly say that this is the first company that I have encountered that stands by what it says. Because BASF is committed to environmental quality, each day when I come to work I feel is if I am entering a wildlife preserve. That cheers my spirits. I hope I have many more years at this site." And from Silvia Medrano: "The garden is a wonderful place to come and chill out when I am having a rough day. The solitude, the flowers, and the butterflies all inspire me so that I can return to my desk."

Such comments from BASF employees are heartfelt. Patently, human kind can no longer live in a proverbial "Eden." Our future—indeed, the future of Planet Earth—is far from secure. For many decades, much of the American public has become familiar with the term "Spaceship Earth," a concept that implies that our planet is a self-contained system surrounded by a void. If we are to survive on an indefinite time scale, we must respect and protect our one-and-only home. Then, Carl Sagan in his 1980 monumental book and television series "*Cosmos,*" popularized "We are made of star-stuff." And Sagan meant that both metaphorically and literally. His poetic penning implied that every atom, molecule, and element throughout the vast universe has had a common origin, that is, everything is interrelated, interconnected. As such, the universe has a basic "oneness."

But old traditions die hard. Such "Business as Usual" keeps us on a path that despoils and deconstructs our fragile "spaceship." If a "Saganesque" future is to be realized, we must consciously embrace a new mindset, a new mantra. Therefore, when I learn of a wildlife oasis such as the BASF Pollinator Garden and similar creations elsewhere, my psyche is stoked. Here is affirmation that ecological saneness can be more than mere rhetoric, and that *Homo sapiens* has at last opted for a candid and righteous path. Now, at BASF Geismar, Louisiana and in a growing number of other arenas in the world's great metropolises: ***"Mother Earth can once again come out to play."***

[**NOTE:** All photographs by the author unless stated otherwise.]

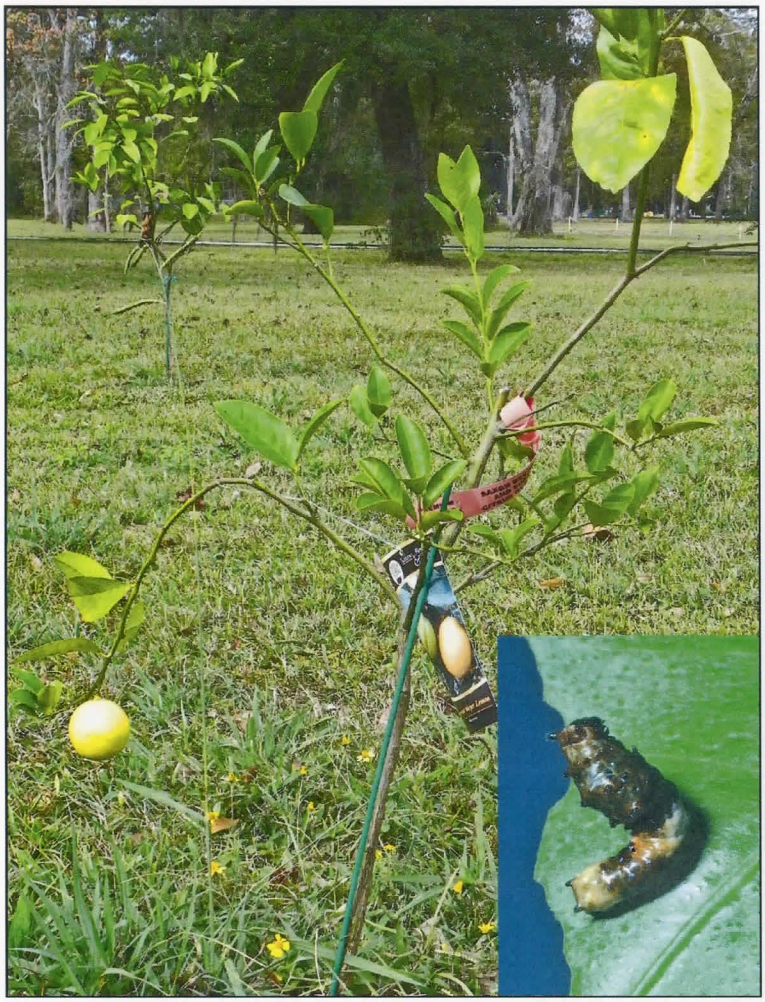

Fig. 45. Young Meyer lemon tree in lawn area adjacent to garden. Other citrus (Satsuma, kumquat) and two fig trees are in vicinity for a total of seven trees. All citrus are hosts to the Giant Swallowtail butterfly (*Papilio cresphontes*). In the very near future, the leaves of the tree should attract the Giant Swallowtail to lay eggs, and humans to enjoy its fruit. INSET: Giant Swallowtail. Young larva (caterpillar) on new leaf of lemon tree. Coloration mimics bird excrement (dropings) and serves as camouflage. Photograph from author's garden (May 2015).

Fig. 46. Giant Swallowtail. Mature larva positioned to metamorphose into pupa (chrysalis). Attachment is by posterior silken pad and mid girdle for an inclined support. Coloration mimics lichens for camouflage. Photograph from author's garden (June 2015).

Fig. 47. Giant Swallowtail. Newly emerged adult and spent chrysalis. Photograph from author's garden (June 2015).

Fig. 48. Giant Swallowtail. Adult (males and females are similar). Considered to be the largest species of butterfly within North America (4-6.25 inches). Photograph staged (Oct. 1994).

Fig. 49. Black Swallowtail *(Papilio polyxenes)*. Mature larva feeding on fennel. Although this species was not seen during my visits in fall 2016, the butterfly is a strong possibility after host plants (carrot family, Apiaceae) such as parsley, fennel, and dill are added. Caterpillar is similar in appearance to that of the Monarch but host plants are different. Photograph from author's garden (May 2013). INSET: Black Swallowtail. Young caterpillar on fennel. Spines are harmless. Coloration mimics that of bird excrement. Photograph from author's garden (May 2013).

Fig. 50. Black Swallowtail. Adult male on butterfly weed (*Asclepias tuberosa*). Although this milkweed is included in the BASF garden, the species does not grow well in the poorly drained soils of south Louisiana. Photograph from Mt. Magazine, Arkansas (June 1995).

Fig. 51. Black Swallowtail. Adult female on butterfly weed. Plant is a host for the Monarch butterfly and a prime nectar source for most butterflies and other pollinators. Photograph from Mt. Magazine, Arkansas (June 1995).

ACKNOWLEDGEMENTS

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www.nwf.org/Garden-For-Wildlife/Certify.aspx

(Gary Noel Ross, E-Mail: GNRoss40@yahoo.com)

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A VISIT TO THE GUMBA LIMBA INSECTARIUM

BY

F. MATTHEW BLAINE

In January 2014 my wife and I had the opportunity to visit Roatan Island, one of the Bay Islands of Honduras. When we visit a new place and we are only going to be there a day or so we usually take a tour that covers the most territory possible. We find by doing that we see as much of a particular place in the time we have. We decided to take a tour of Gumbo Limbo Park which was the farthest trip and was advertised to have botanical gardens with over 200 species and a large collection of native birds and animals (Fig. 1). When we arrived we were met by a guide in the parking lot, who walked us into the park through some of the interesting sights. As we walked I noticed a sign in the distance through an archway that

Fig. 1. Entrance to Park

Fig. 2. Wall with Insectarium sign through doorway

read "Insectarium". The sign immediately caught my attention and we planned to visit it later (Fig. 2). For the time being we had to stay with the tour for the initial orientation. We knew that after the orientation we would be on our own for several hours to meander through the entire complex.

Once we were set free, we returned to the arched gateway in the wall where we had seen the insectarium sign (Fig. 3). As we walked through the archway we noticed that it was constructed in a hill side so that the entire structure was covered in earth. Just outside of the entrance doors there was a sign listing the rules for the Insectarium in English and Spanish (Fig. 4). Upon entering we found another sign that explained what we would see and that the collection was for education and research (Fig. 5).

The main room was covered with a surround mural painted on the walls. It was of jungle habitat with clearings, a water fall, and a brilliant blue sky similar to the habitat where insects would live. The sky started on the walls and continued to cover the entire ceiling. There were upright posts evenly spaced down the sides of the room. Each post was sculpted like

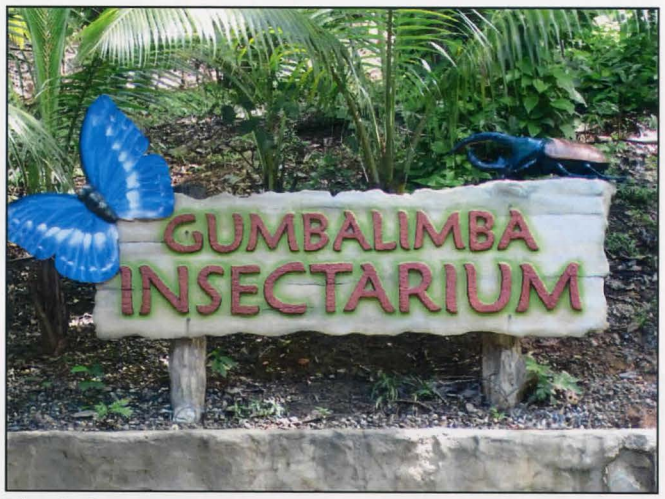

Fig. 3. Insectarium sign

bark and painted brown. They were made to resemble tree trunks and were an integral part of the mural design. The tree trunks protruded out from the mural painting and provided a surface on which to hang two insect display cases. All of the display cases in the room were neatly constructed and had glass fronts that reminded me of Cornell Drawers without the hardware. Each display case was painted bright leaf green with only the inside pinning bottom and glass left unpainted. There were eight display cases attached to a large central "tree trunk" in the center of the room. A few display cases were carefully placed in the center of the room on a stand (Fig. 6). The

Fig. 4. Insectarium rules

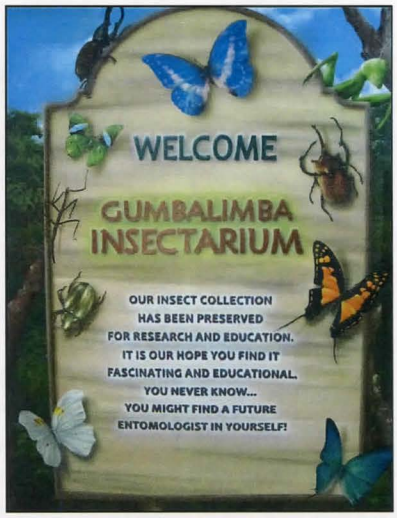

Fig. 5. Mission statement sign

Fig. 6. Display area

Fig. 7. Papilonidae

Fig. 8. Hesperiidae, Ithomiidae

Fig. 9. Heliconidae

Fig. 10. Nymphalidae

Fig. 11. Nymphalidae

Fig. 12. Morphidae

Fig. 13. Morphidae

Fig. 14. Mixed countries

Fig. 15. Moths

room was air conditioned and had multiple de-humidifiers installed in various locations around the room. The total effect was to make visitors feel as if they were actually in a jungle environment where some of the insects on display might live. There were even some natural sounds piped in to add to the experience.

Unlike some of the older insect collections that we have seen in Central America and the Caribbean, this one had attention given to preventing light from deteriorating the colors of the specimens. There were lights around the ceiling which provided ample illumination to see the specimens but unfortunately they also caused reflections on the glass in each display case. The reflected glare from the lights made it difficult to get good photographs.

Each display case had a label inside which either told the country where the contents were collected, the family, sub family, or tribe of which they were members (Fig. 7-18). Each specimen also had a data label attached to the insect pin.

Fig. 16. Pieridae, Riodinidae, Lycaeidae

Fig. 17. Saturiidae

Fig. 18. Moths

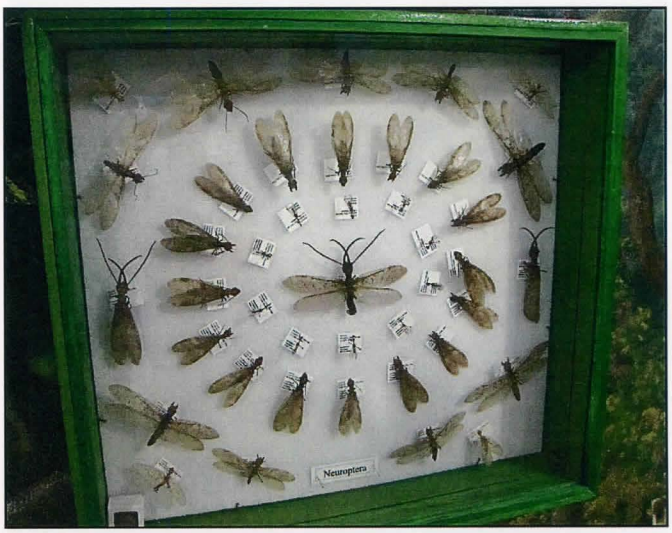

Fig. 19. Neuroptera

In addition to Lepidoptera there were display cases with examples of other orders of insect (Fig. 19-22). While this was a general collection it was heavily weighted in Lepidoptera.

At the far end of the room was a painting of a map of the world which showed where some of the butterflies are endemic (Fig. 23, 24). Finally there was a relief sculpture map of the Bay Islands of Honduras highlighting where the park is located (Fig. 25). We found the park and insect collection to be very interesting as were the plants and birds but that is another story (Fig 26)!

Fig. 20. *Megasoma elephas* (Elephant Beetle)

Fig. 21. Orthoptera

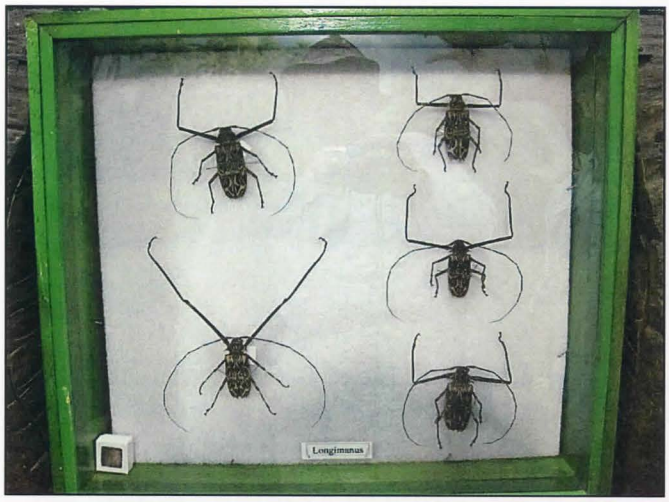

Fig. 22. *Acrocinus longimanus* (Harleguin Beetle)

Fig. 23. Main Room

Fig. 24. Insects of the World Map

Fig. 25. Relief Map of the Bay Islands

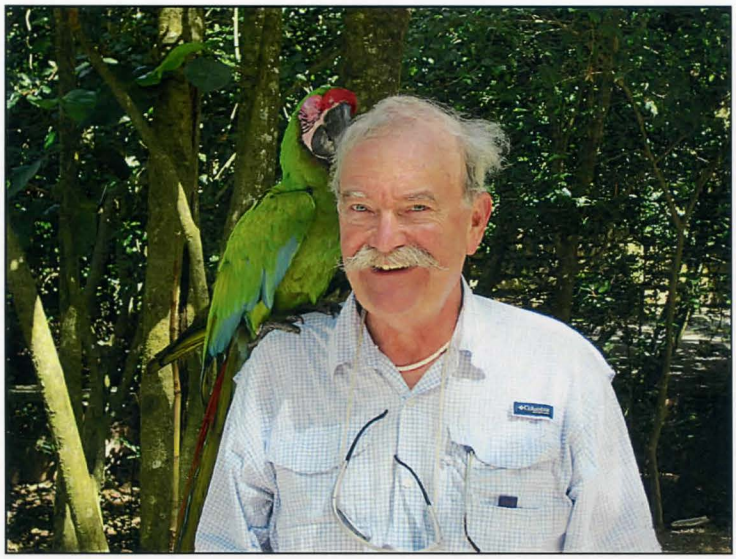

Fig. 26. The author and friend (Photo by Dona Blaine)

F. Matthew Blaine
Curatorial Associate
Delaware Museum of Natural History
Research Associate
The Florida State Collection of Arthropods
Research Associate
The McGuire Center for Lepidoptera and
Biodiversity at the Florida Museum of
Natural History, University of Florida

[Note: All photos except Fig. 26 are by the author]

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ACRONICTA LAETIFICA SMITH, 1897 (LEPIDOPTERA: NOCTUIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

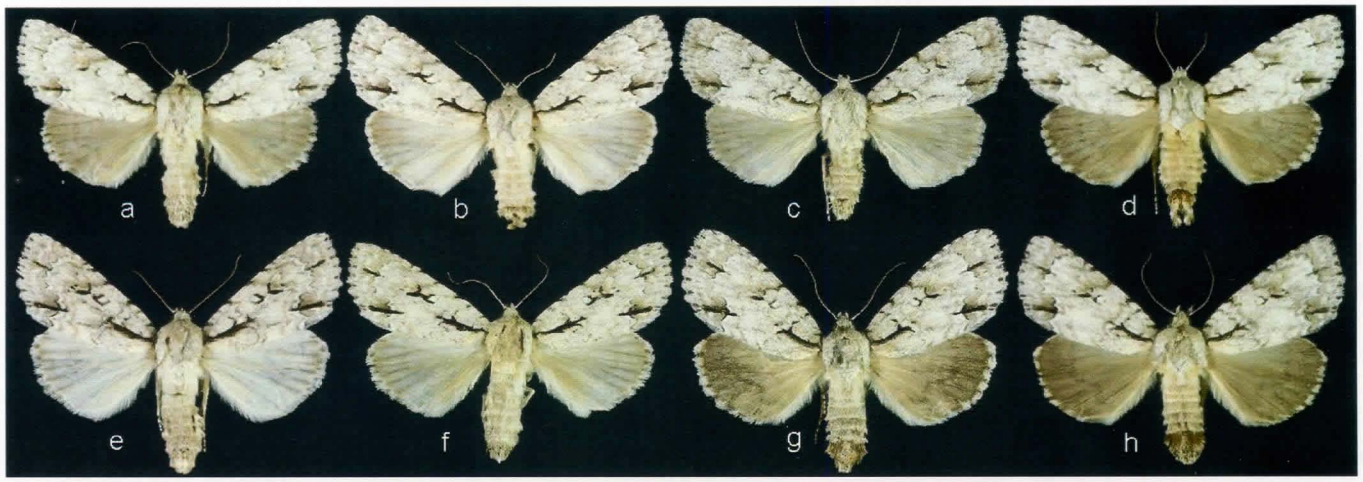

Fig.1. Adult ***Acronicta laetifica*:** males a-d, females e-h.

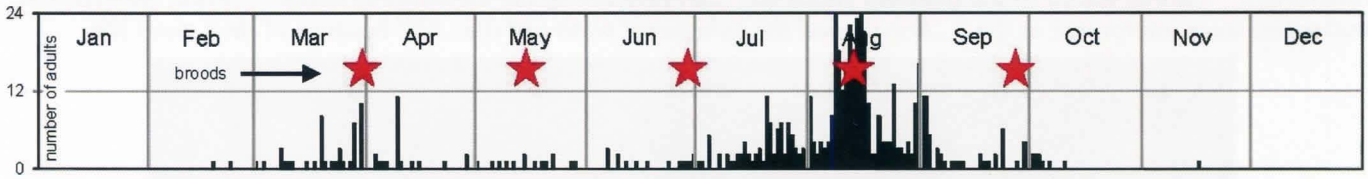

Fig. 2. Adult ***Acronicta laetifica*** captured in Louisiana. n = 557

Within Louisiana, ***Acronicta laetifica*** Smith (Fig. 1.) is a fairly common and widespread medium-size species of noctuid moth. Forbes (1954) listed ***laetifica*** to occur in Canada from Quebec, and in the United States from New York and Wisconsin and feeding on hickory and (occurring) in the month of July, and being rare. Covell (1984) stated the range of ***laetifica*** to include Nova Scotia to Florida, west to Manitoba and Texas, April-October in two or more broods and the larval foodplants as hickories. Chapin and Callahan (1967) did not include ***laetifica*** in their list of noctuidae for the area around Baton Rouge, Louisiana, though it has subsequently been captured there. Knudson & Bordelon (1999) included ***laetifica*** in their checklist of Texas lepidoptera. Heppner (2003) listed the range of ***laetifica*** to include Nova Scotia to Florida, and Manitoba to Texas, in the months March to April, June, and September to October, and the hostplants as ***Carya*** sp. Within Louisiana, adult ***laetifica*** have been captured using ultraviolet light traps for the past 46 years. Adults exist for all months February to November in what appears to be five annual broods, peaking at about 46-day intervals (Fig. 2). Only the fourth brood peaking in August (68% of total adults in this study) is the most abundantly populated. Similarly two other species, ***Acronicta americana*** (Harris) has five annual broods in Louisiana, but the fifth brood accounted for 75% of the total annual population (Brou, 2010), and ***Acronicta lobeliae*** Guenée, which has six annual broods in Louisiana, but the first annual brood accounted for 72% of the total annual population (Brou, 2013). The parish records for ***laetifica*** in Louisiana are illustrated in Fig. 3.

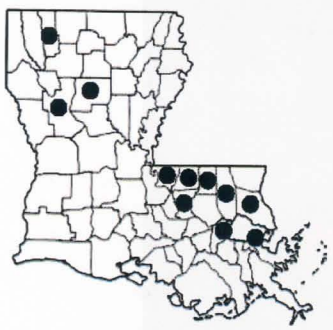

Fig. 3. Parish records for ***A. laetifica***.

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VANITAS

Vanitas is a latin word meaning '*emptiness*' and in art especially of '*still life paintings*' which were popular in the 16th and 17th centuries in the Dutch-speaking northern portion of Belgium known as Flanders and in the Netherlands. These painting referred to as *vanitas* were a symbolic portrayal of earthly life and in a negative sense the "*worthless nature of all earthly goods and pursuits*." [1]

This style rose to prominence by symbolizing an "*increased obsession with death and decay also seen in the Ars moriendi* (The Art of Dying), *the Danse Macabre* (Dance of Death), *and the overlapping motif of the Memento mori* (Remember you must die)". These painting reminded the viewer "*...of the transience of life and the futility of pleasure....*" Skulls added to the painting signified "*...a reminder of the certainty of death.*" Fruit, flowers and butterflies were interpreted as the "*...brevity and the ephemeral nature of life...*" [1] because of their short life.

Vanitas-Still Life, Maria van Oosterwijck (1630–1693). ***"The Red Admiral butterfly (Vanessa atalanta) appears in various locations within most of her substantial paintings. For example, sometimes the butterfly is resting on a flower stem, or on the edge of a table with a flower vase, or on a book. The butterfly was used as a device to draw the viewer's attention into the painting and into van Oosterwijck's artistic vision."*** [2]

1. http://en.wikipedia.org/wiki/Vanitas ,
2. https://en.wikipedia.org/wiki/Maria_van_Oosterwijck

[*Vanitas* continued on page 34]

ACRONICTA LONGA GUENÉE, 1852 (LEPIDOPTERA: NOCTUIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

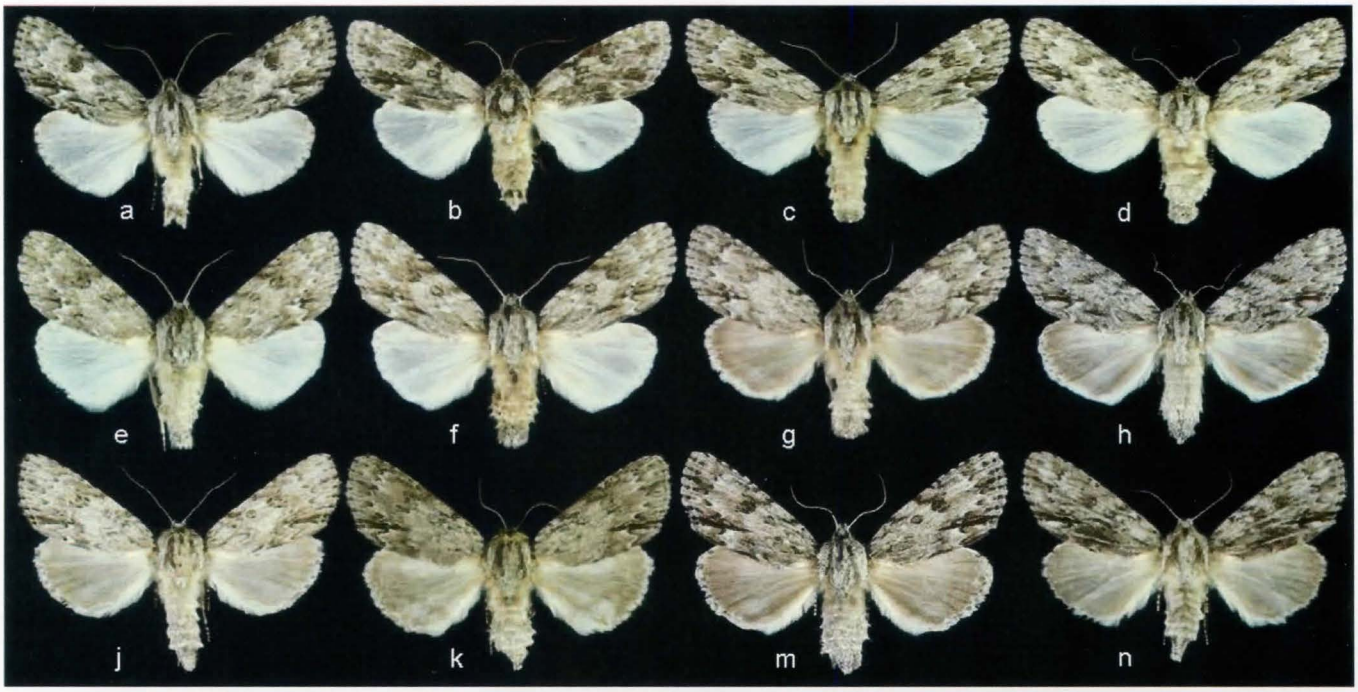

Fig. 1. Adult ***Acronicta longa*** phenotypes: males a-f, females g-n (Abita Springs, St. Tammany Parish).

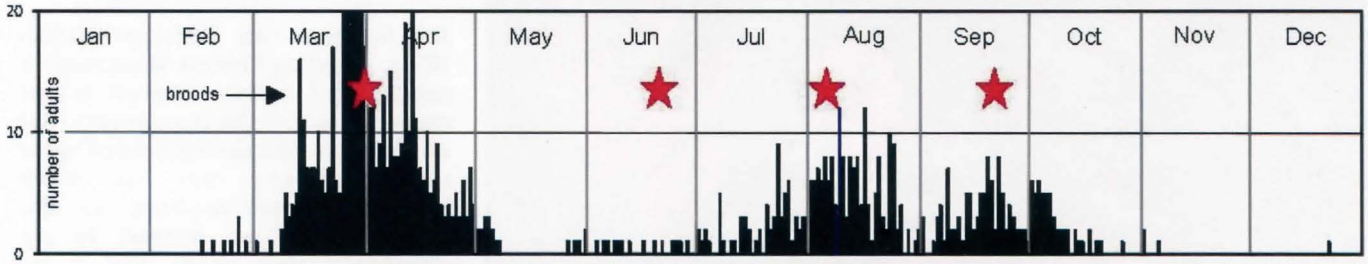

Fig. 2. Adult ***Acronicta longa*** captured in Louisiana. n = 973

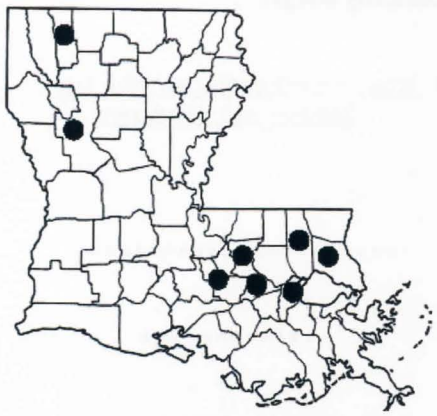

Fig. 3. Parish records for ***A. longa.***

Acronicta longa Guenée (Fig. 1.) is a medium-size species of the genus within Louisiana. Forbes (1954) listed the range of ***longa*** to include Canada and Massachusetts to Florida, west to Texas, and the Rocky Mountains, and feeding on birch, alder, cherry, and blackberry, and occurring in the months of May and June, August and September. Covell (1984) stated the range of ***longa*** to include areas throughout eastern North America in April-August in two or more broods, and additional food plants to include oaks, roses, and willows. Heppner (2003) listed the range to include Nova Scotia to Florida, and Alberta to Texas, and added food plants: Rhus, Diospyros, and Gossypium. Knudson & Bordelon (1999) listed ***longa*** for Texas.

Within Louisiana, adult ***longa*** have been captured using ultraviolet light traps for the past 47 years by this author. Previously, Folsom (1936), and Chapin and Callahan (1967), reported ***longa*** for the state of Louisiana. Adults exist for all months, February to December, in what appears to be four annual broods (Fig. 2). The second brood is minimally populated. The initial brood peaking early April accounts for nearly 60% of all adults captured in this study, a unique scenario similar to, and previously recorded for ***Acronicta americana*** (Harris) which has five annual broods in Louisiana, but the fifth brood accounted for 75% of the total

annual population (Brou, 2010), and ***Acronicta lobeliae*** Guenée, which has six annual broods in Louisiana, but the first annual brood accounted for 72% of the total annual population (Brou, 2013). The parish records for ***longa*** are illustrated in Fig. 3.

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VANITAS

[continued from page 32]

Jan Sanders van Hemessen (1500-1579), a leading Flemish Renaisssance painter had a keen interest in the master artists of the Renaissance. He was familiar with and influenced by the contemporary art of both Michelangelo and Raphael. He also obviously had an interest in the macabre[1] (the skull) and *"...the ephemeral nature of life..."* (the butterfly wings).

1. https://en.wikipedia.org/wiki/Jan_Sanders_van_Hemessen

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[*Vanitas* continued on page 66.]

EUCHLAENA MARGINARIA (MINOT, 1869) (LEPIDOPTERA: GEOMETRIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

Fig. 1. ***Euchlaena marginaria*** phenotypes: a-m. males, n-v. females.

The very variably marked geometrid moth ***Euchlaena marginaria*** (Minot) (Fig. 1) is a member of the genus ***Euchlaena*** Hübner, 1823, and was originally described as ***Caberodes marginaria*** Minot in 1869. Here is the complete original description: *'Caberodes marginarian. sp. S Al. ex., 2.20 inch. Pale ochraceous, with innumerable atoms. Above, a broad, fuscous, marginal band, distinctly defined interiorly; cellular dots large, brown and very distinct. Beneath, a transverse, brunneous line, suffused exteriorly, corresponding with the inner margin of the band of the upper surface;*

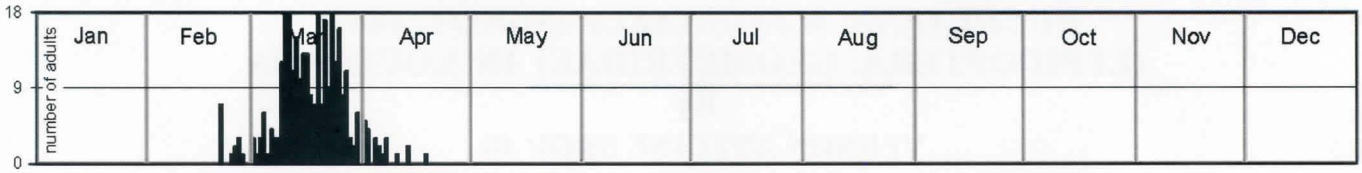

Fig. 2. Adult ***Euchlaena marginaria*** captured in Louisiana. n = 334

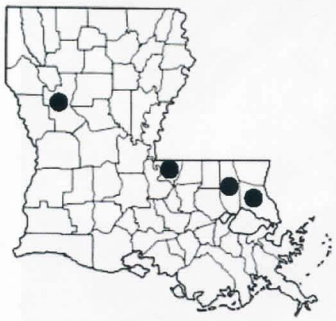

Fig. 3. Parish records for ***E. marginaria***.

cellular dots distinct. Fringe narrow, ochraceo-fuscous. Abdomen, front and thorax, ochraceous. Palpi distinct, projecting beyond the head, parallel, reddish brown. Thorax woolly, patagia larger than is usual in the genus. Fore wings subfalcate, hind wings subcaudate. Wings and body have a silken gloss. This species is extremely interesting from the peculiar style of marking, which is unique, as far I know, in its genus. The only specimen I have seen was taken by myself near Muddy Pond, in West Roxbury, Mass., in the middle of August, 1869'. There is no mention by Minot, of a type specimen or placement thereof.

In the U.S., ***marginaria*** ranges across the eastern half of the country, west to the Great Lakes and Texas. This species was not covered by Covell (1984), nor Heppner (2003), nor Wagner (2005), nor Powell & Opler (2009).

Within Louisiana, ***marginaria*** is a very common early spring moth in ultraviolet light traps, and is univoltine, the brood peaking mid-March (Fig. 2). The Louisiana parish records are illustrated in Fig. 3.

I thank Charles V. Covell Jr. for commenting on this species account.

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NEW MOON DATES FOR 2017

According to NASA

January 28, 2017
February 26, 2017
March 28, 2017
April 26, 2017
May 25, 2017
June 24, 2017
July 23, 2017
August 21, 2017
September 20, 2017
October 19, 2017
November 18, 2017
December 18, 2017

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APOCHEIMA HÜBNER, [1825] (LEPIDOPTERA: GEOMETRIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

Three species of the genus ***Apocheima*** Hübner, [1825] = (synonym ***Phigalia*** Duponchel, 1829) are reviewed for the state of Louisiana. The genus (***Phigalia***) was revised by Rindge (1975) and included four North American species now known as: ***Apocheima denticulata*** (Hulst, 1890) (**Fig. 1**), ***Apocheima strigataria*** (Minot, 1869) (**Fig. 3**), ***Apocheima titea*** (P. Cramer, 1780) (**Fig. 5**), and the western North American species ***Apocheima plumigeraria*** (Hulst, 1888), new combination.

Rindge (1975) provided a general description regarding the genus (***Phigalia***) *"Diagnosis: The females are brachypterous; all four wings are present but greatly reduced. The males have bipectinate antennae. Both sexes have two pairs of spurs on the hind tibia; the dorsal surface of the abdomen is either covered with flattened, deeply bifurcate scales or with numerous spines of equal size".* Readers are directed to Rindge's (1975) revision for a more in-depth understanding of this group.

Covell (1984) addressed all three of the eastern North American species. All three of these eastern winter species: ***denticulata***, ***strigataria***, and ***titea***, found in Louisiana occur as adults, each with single annual broods (Figs. 2,4,6).

Apocheima denticulata

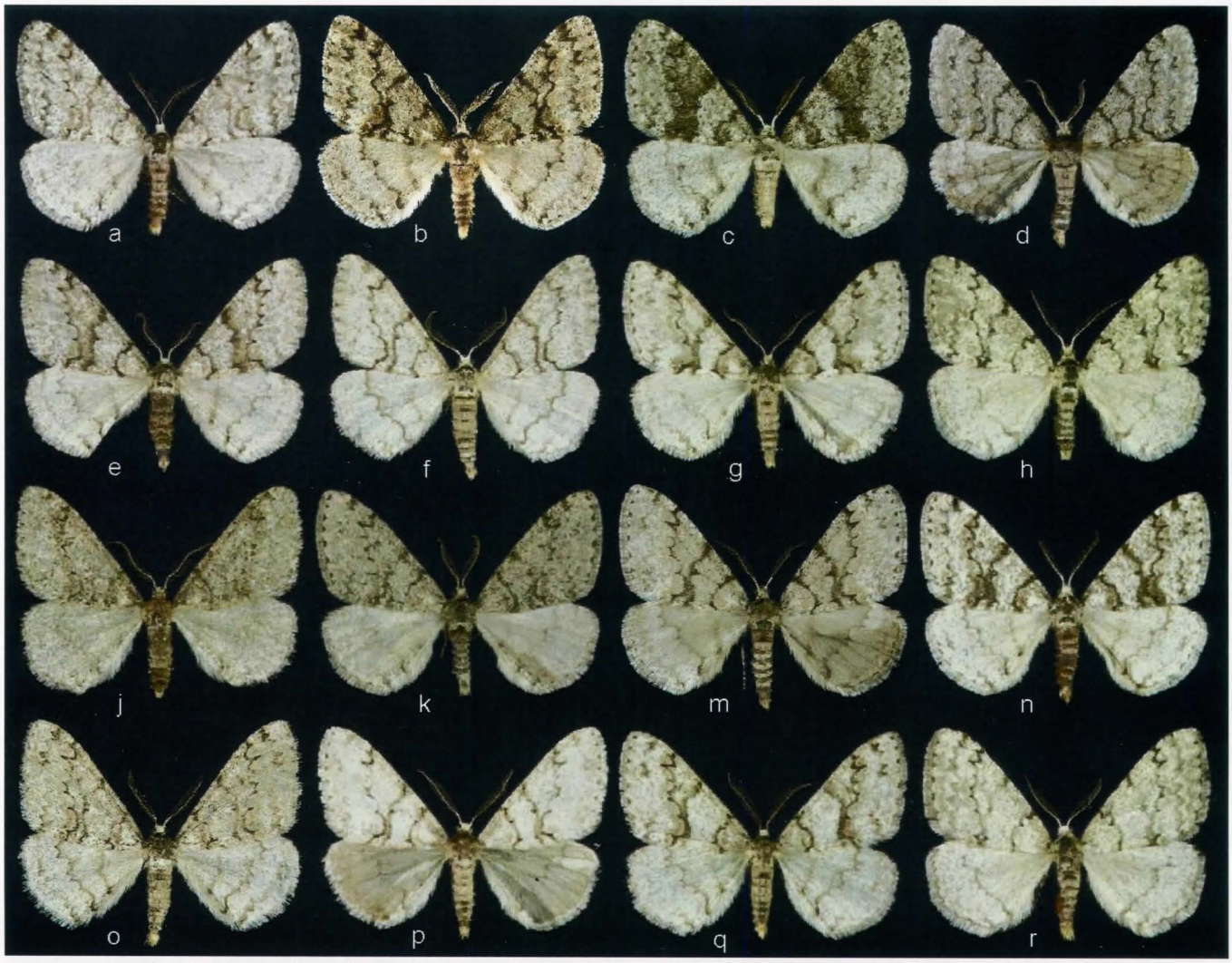

Fig. 1. ***Apocheima denticulata*** phenotypes: males a-r. All from St. Tammany Parish, Louisiana.

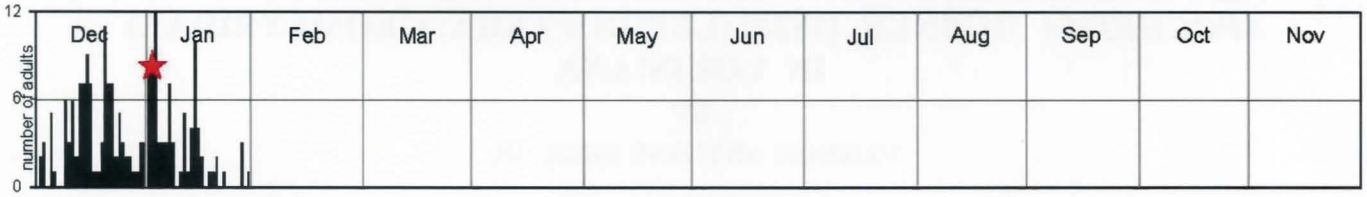

Fig. 2. Adult ***Apocheima denticulata***, males captured in Louisiana. n = 212

Rindge (1975) studied 594 adults of ***denticulata*** from eastern United States. Males of this species are variable in appearance. Covell (1984) stated ***denticulata*** is common, and occurring Virginia to Florida, west to Missouri and Texas. This author stated ***denticulata*** occurs December-April.

Within Louisiana, the one annual brood of ***denticulata*** peaks at the end of December/beginning of January (Fig. 2). The parish records are illustrated in Fig. 7a.

Apocheima strigataria

Fig. 3. ***Apocheima strigataria*** phenotypes: males a-r. All from St. Tammany Parish, Louisiana.

Rindge (1975) listed the distribution of ***strigataria*** to include "*Eastern North America from the Atlantic to about longitude 1000 W; it is absent in peninsular Florida. In Canada ... known from southern Ontario (Prentice, 1963) and southern Quebec*". The males of ***strigataria*** are smaller in size than the other two ***Apocheima*** species occurring in Louisiana.

Rindge reported the flight period of ***strigataria*** appears to be slightly later than that of ***denticulata***. Within Louisiana the one annual brood of ***strigataria*** peaks about six weeks later than that of ***denticulata*** from beginning of January through March (Fig. 4). The parish records are illustrated in Fig. 7b.

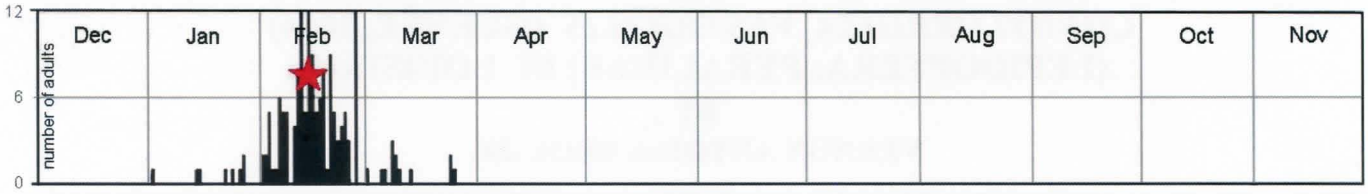

Fig. 4. Adult ***Apocheima strigataria*** males captured in Louisiana. n = 170

Apocheima titea

Fig. 5. ***Apocheima titea*** phenotypes: a-d. males.

Rindge (1975) studied 709 adults of ***titea*** (Fig. 5), and stated this species occurs in Eastern North America. This same author stated it occurs in the United States "*from Maine to Florida, west to eastern Texas, the Ozark Plateau, the central plains states, both North and South Dakota, Colorado, and Utah. In Canada* ***titea*** *extends from Nova (Ferguson, 1954) and New Brunswick west to central Saskatchewan (Prentice, 1963)".* Rindge also stated the flight period of ***titea*** occurs February and March in the south, and April into early July in the north and northwest". The males of ***titea*** are larger in size than the other two Louisiana ***Apocheima*** species. Covell (1984) stated ***titea*** is common throughout eastern North America, but I have recorded only eight adults in the past half century within Louisiana. Covell stated ***titea*** occurs March-April. Within Louisiana, the one annual brood of ***strigataria*** peaks end of February/beginning of March (Fig. 4). The parish records are illustrated in Fig. 7c.

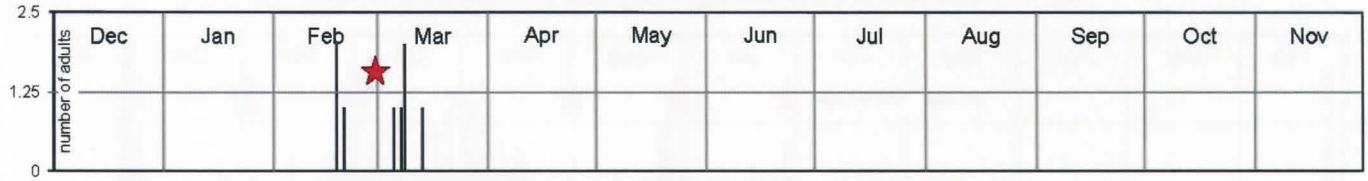

Fig. 6. Adult ***Apocheima titea*** males captured in Louisiana. n = 8

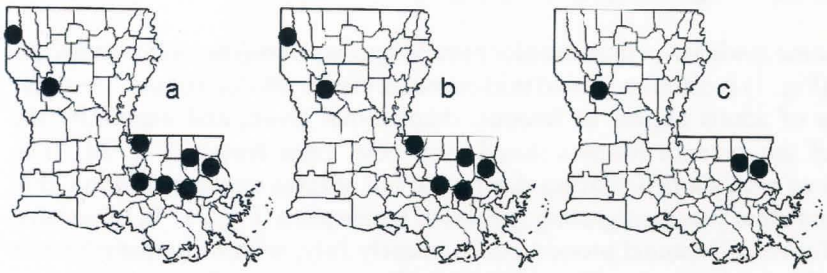

Fig. 7. Parish records for: a: ***A. denticulata***, b: ***A. strigataria***, c: ***A. titea***.

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CONDYLORRHIZA VESTIGIALIS (GUENÉE, 1854) (LEPIDOPTERA: PYRALIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

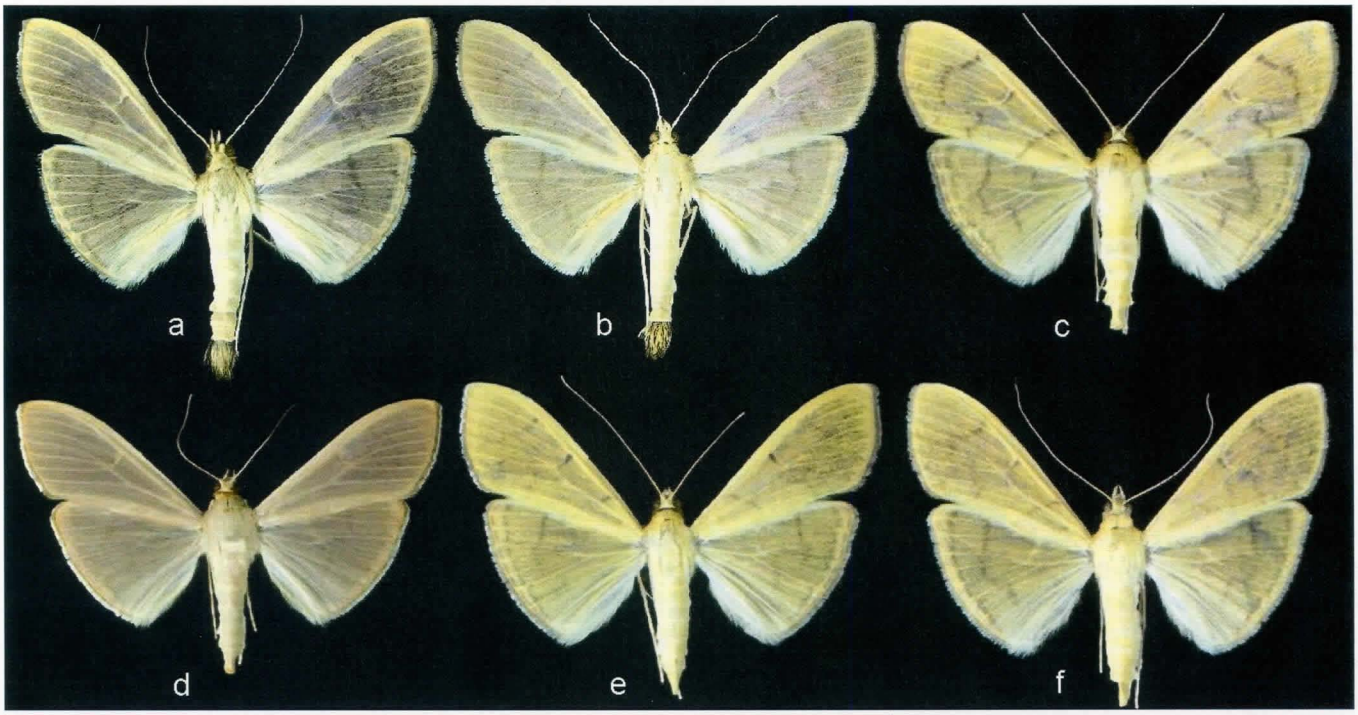

Fig. 1. Phenotypes of ***Condylorrhiza vestigialis:*** a-b. males, c-f. females.

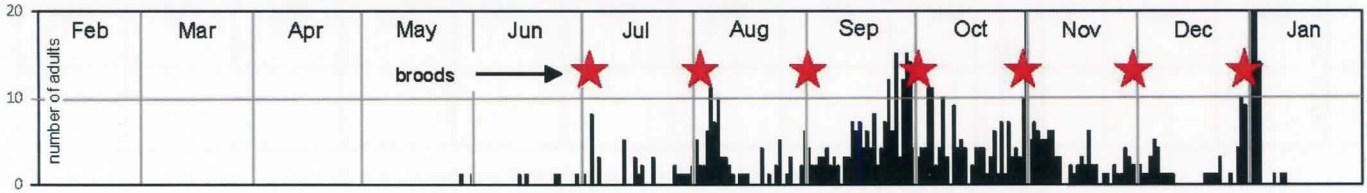

Fig. 2. Adult ***Condylorrhiza vestigialis*** captured in Louisiana. n = 678

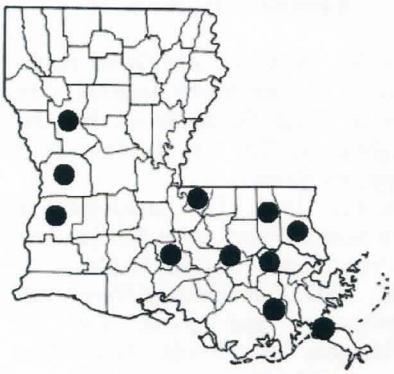

Fig. 3. ***C. vestigialis*** parish records.

The handsome medium-yellow in color pyralid species ***Condylorrhiza vestigialis*** (Guenée) (Fig. 1) is often an annual mid-summer visitor into Louisiana. A minor percentage of adults appear as luteous, diaphanous green, and especially the majority of the seventh brood colored very pale, light brown (Fig. 1d). The phenology of ***vestigialis*** occurring during the fall months appears to mimic that of numerous other yearly migrating species of lepidoptera (Fig. 2). In Louisiana, the first of seven (7) annual broods, peaks in early July, with subsequent broods peaking at 30-day intervals. ***C. vestigialis*** is often encountered over much of the southeast US, from West Virginia south to Florida, and west through the Gulf states to Texas. This species was not covered by Covell (1984), nor Heitzman & Heitzman (1987). Heppner (2003) listed the range to include New York to Florida and Missouri to Texas. The Louisiana parish records are illustrated in Fig. 3. I thank James Hayden for reviewing and commenting upon this species account.

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MONARCHS, RAINBOWS AND PREDATORY SQUIRRELS: VISITING OVERWINTERING SITES IN CALIFORNIA

BY

CANDY SARIKONDA

In late December 2016, I journeyed to California to visit Lighthouse Field State Beach and Pacific Grove Monarch Sanctuary, two of the monarch overwintering sites along the California coast that usually host large numbers of overwintering monarchs. Lighthouse Field in Santa Cruz has been hosting monarchs each winter for years in a grove near Pelton Ave and West Cliff Drive. On the day of my visit, I found about 8,000 monarchs at the site, tucked in native cypress trees in the southeast corner of the grove. Some were on the perimeter of the grove, roosting and basking in the sun on the southeast side. But the majority were tucked in the u-shaped nook on the southwest side of this section of the grove, catching the afternoon sun as they basked and nectared on nearby eucalyptus blossoms and ice plant. Here, they were protected from prevailing northwest winds, shielded by a mix of eucalyptus and cypress trees. I always enjoy seeing how the monarchs can pack themselves so tightly into the cypress branches, but the strong glare made it challenging to observe them. At first, it appeared that there were only a few thousand monarchs. But looking through my camera lens, I could zoom in and see many more monarchs tucked deeper into the cypress branches. It was stunning to see them.

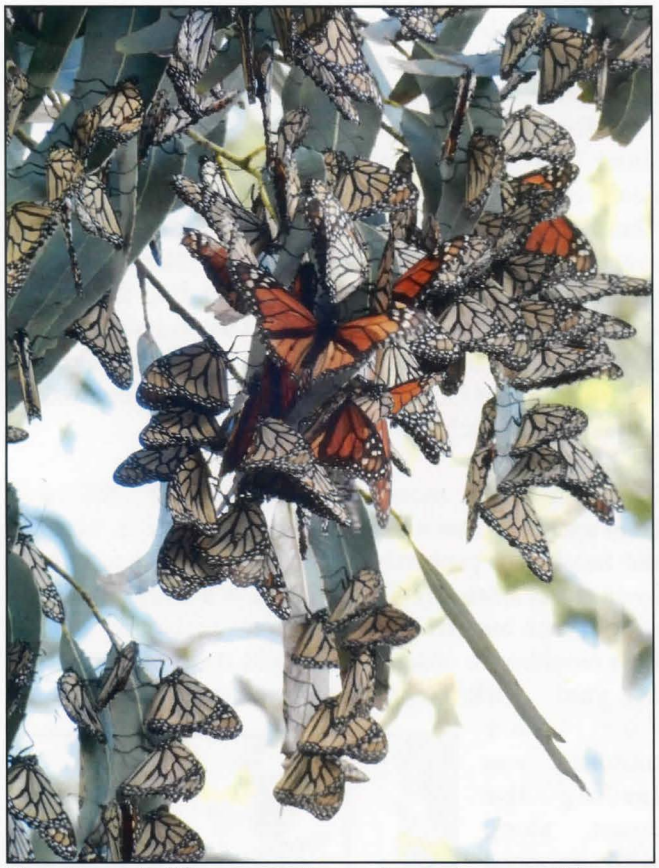
I then journeyed to Pacific Grove Monarch Sanctuary (PGMS). This grove is a small mature forest located in the city of Pacific Grove, and contains a mix of non-native eucalyptus and native pine and cypress trees. Monarchs tend to cluster in the south/southeast perimeter section of the grove, taking advantage of the sun's path to warm them throughout the day. In the line of eucalyptus trees bordering the southern edge of the grove, monarchs can often be observed following the sun, moving from trees in the southeast section in the morning hours and then clustering in the south section as the day progresses. A number of trees in the grove shield monarchs from prevailing northwest winds. But as weather worsens and storms move in, strong storms dominated by southerly winds will lead monarchs to take shelter in the interior of the grove, using the line of eucalyptus trees along the south side of the grove to help shield them from these strong southerly winds. Sadly, in recent years, the grove has been experiencing some decline, as aging eucalyptus trees lose branches and native pines and cypress battle pitch canker disease. The recent loss of trees has opened up the interior of the grove, allowing northwest winds to penetrate more. The eucalyptus on the south side of the grove are old, and new adjacent plantings suffer a bit from drought stress and the shade created by the adjacent older eucalyptus trees. The grove certainly has its restoration challenges, but the neighbors' trees help provide the microclimate needs that the monarchs seek, and the grove continues to attract a good number of monarchs each winter.

On December 31, 2016, I joined staff and volunteers from the Pacific Grove Museum of Natural History to conduct a count of the monarch butterflies overwintering at PGMS. The sanctuary has long been a preferred overwintering site in California, one of about 200 sites located along the California coast. Each year, during a 3-week period around Thanksgiving Day and again around New Year's Day, researchers and volunteers visit overwintering sites to conduct a count of the monarchs spending the winter at these locations. The Western Thanksgiving Count is coordinated by Mia Monroe and the Xerces Society for Invertebrate Conservation, and has been conducted annually for nearly 20 years.

This winter, the monarch butterflies at PGMS have been spending much of their time clustered in trees on the neighbors' properties. But Pacific Grove, known lovingly as Butterfly Town, USA, is a town that loves its monarch butterflies, and we were graciously invited by a neighbor to observe and count the monarchs from her yard. Nick Stong, education programs manager for the museum, was leading the count, along with seasoned volunteers Stephanie Turcotte Edenholm and Connie Masotti. Just as we reached the neighbor's yard, a soft drizzle began. Undeterred, the team counted the number of butterflies in each cluster,

Nick Stong, Stephanie Turcotte Edenholm, and Connie Masotti count the monarchs in eucalyptus trees near the grove's entrance.

located high in a nearby mature pine tree. The morning sun shone brightly on the clusters, illuminating the butterflies in the tree. At first, the butterflies appeared like dead leaves gathered tightly together at the tips of the tree branches. Their closed wings displayed the darker grays and browns of the undersides of their wings, providing a perfect camouflage. But as the sun pierced the soft drizzling rain, some butterflies began to open their wings, revealing their brilliant orange like pieces of stained glass adorning the branches. A rainbow graced the clusters from above, a precious gift on a chilly 45°F morning.

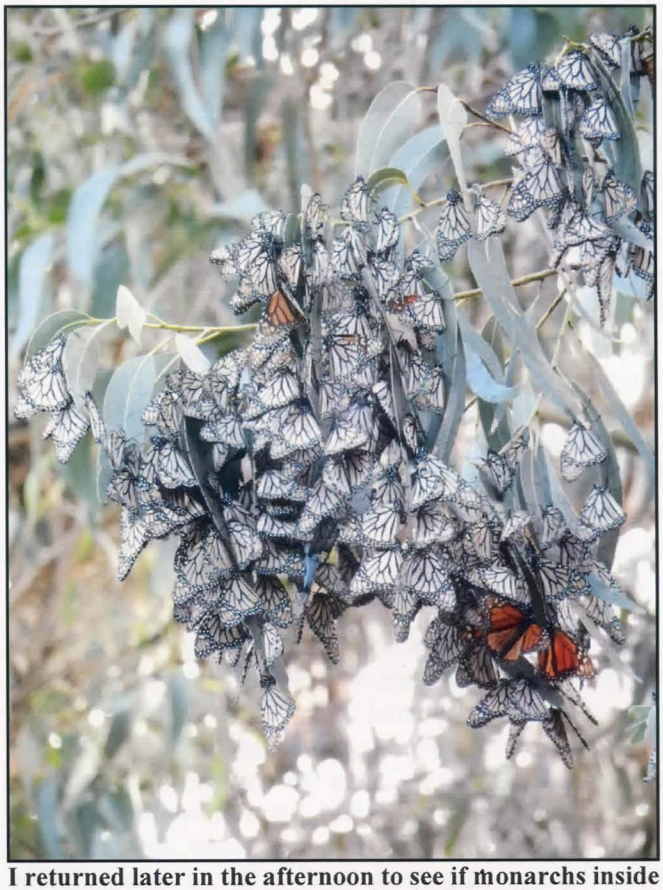


Near the end of the count, the sun began to warm things up slightly, and some monarchs became more active and attempted to bask and shiver. But the interior of the grove remained too cold for flight threshold, and only monarchs in the neighbor's pine tree were able to fly. Some searched for nectar, while others looked for additional places to bask.

We completed the count from the neighbor's yard, and returned to the grove entrance as the rain came to an end. Finally, for the first time this season, some monarchs had moved from the neighbors' yards and clustered inside the grove in good numbers. They had formed clusters midway up in the old Eucalyptus trees lining the grove's southern edge near the entrance. The team began counting the monarchs in these clusters. They started by selecting a large cluster in a single tree. They each counted the monarchs in the cluster, and then compared their findings. They then counted all the other clusters in that tree, agreeing on a final count before moving on to the next tree that contained monarchs. They made note of the tree species the monarchs were found in, as well as the height at which the clusters were located.

We walked further down the path and located a few additional clusters about 45 feet up in Monterey pine trees overhanging the path, and counted these as well. From this point in the grove, we could peer through the eucalyptus trees and see the neighbor's pine tree where we had counted the monarchs earlier. While the grove was still quite shady, the neighbor's pine tree was in the direct morning sun, though completely exposed to any wind. I wondered aloud as to why they had picked that particular tree. Could it be the morning sun? Stong wondered as well. He said it had been a very cold winter so far this season, with the grove's interior reaching near freezing temperatures. He and his team had wondered if some of the monarchs were sacrificing a windbreak, in favor of a location in the direct sun.

We decided to move deeper into the interior of the grove, following trails carved out by the resident deer



I returned later in the afternoon to see if monarchs inside the grove had become more active, but the sky remained overcast and monarchs remained huddled closely together. A rare few attempted to bask, and the contrast of their bright orange against the dull undersides of their clustermates highlighted the monarchs wonderful camouflage.

population. As we walked, we discussed predation of monarchs by squirrels in the grove. Masotti reported finding 192 monarchs alive on the ground with their abdomens missing, the wings and thorax still intact. Another 30 monarchs were already dead, their abdomens also missing. Stong described how the abdomens had been removed with near-surgical precision, leaving some monarchs attempting to fly despite the absence of their abdomens. The team recalled how they had thought this might be due to attacks by wasps, until they actually witnessed squirrels preying on the monarchs. Masotti captured photos of a squirrel consuming the monarchs, a highly unusual behavior given that monarchs have some protection from predation due to their toxicity and bitter taste. Clearly, at least one squirrel in the grove is undeterred by the monarchs' toxicity.

Images of a squirrel: These photos were taken by docent Connie Masotti. Masotti and her fellow docents have witnessed this squirrel preying on monarchs in the grove on several occasions. It is not clear whether or not it is just one squirrel engaging in this unusual behavior, or more. This squirrel is clearly undeterred by the monarchs' bitter taste, and consumed so many monarchs during one sitting, that monarchs were forced to leave the neighbor's cypress tree and cluster elsewhere. See Masotti's blog for more information.

After two hours, we had completed the count. The final tally was 4520 monarchs. Like PGMS, the team reported that population counts are down this season at most western overwintering sites as compared to last season.

Our thoughts turned to a discussion of the plight of the western monarch population. Like the eastern population, the western population has experienced a significant decline over the past two decades, dropping 81% since the late 1990's. Many monarch enthusiasts are aware that most monarchs east of the Rockies spend the winter in Mexico. But far fewer people are aware that most monarchs west of the Rockies spend the winter in California. Bringing public awareness to the plight of the western monarch population is a mission currently being undertaken by many Monarch Joint Venture partners. Research efforts in the west have led to a greater understanding of monarch breeding, migratory and overwintering behavior, as well as the creation and restoration of breeding and overwintering habitat. If you would like to learn more about the western monarch population, visit The Western Monarch Count Resource Center at http://www.westernmonarchcount.org. Consider volunteering with one of the organizations involved in western monarch conservation. Opportunities abound, and your help is greatly needed!

[Final photo for Candy Sarikonda's article is on the next page.]

Additional photos pertinent to this article are listed below:

Photo journey from Lighthouse Field https://www.flickr.com/photos/candy_kasey/albums/72157674891762754

Photo journey of count at PGMS by Candy Sarikonda https://www.flickr.com/photos/candy_kasey/albums/72157678613798216

Photos and story of squirrel eating monarchs at PGMS by PG museum docent Connie Masotti http://www.capturedbyconnie.org/single-post/2017/01/06/Who-Knew

(Canday Sarikonda, E-mail: koundinya@bex.net)

This is a view of the neighbor's pine tree from inside the grove. The sun shone brightly on these clusters, where minutes earlier a rainbow graced this branch.

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WELCOME TO OUR NEW MEMBERS

Charles N. Watson
2241 Sheffield St.
Kingsport, TN 37660

Carol Wolf
2370 Hollow Springs Rd.
Woodbury, TN 37190

Stanley A. Gorodenski
9440 E. Newton Ave.
Dewey, AZ 86327

Tim Zittrauer
2754 Summerdale Dr.
Suite A
Clearwater, FL 33761-2910

Dennis Holmes
4365 Glen Vista Ct.
Redding, CA 96002

UNEXPECTED DISCOVERY WHILE COLLECTING MICRO LEPIDOPTERA BY UV TRAP

"A VERY PRETTY LAUXANIIDAE, NAMELY A MALE *POECOLIMINETTA PICTICORNIS* "*

BY

F. MATTHEW BLAINE

I have been using a bucket UV trap to collect moths in my back yard here in Melbourne, Florida every winter. I also add any other insects that I find interesting to my general collection. I do not want to waste anything that I catch so I collect what is left in Ethyl Alcohol to donate. This winter I have been paying particular attention to micro-Lepidoptera. I have always been interested in them and have experimented with different ways of spreading and setting specimens. I once tried using glass slides and thread to set the spread wings which was something that I read about in one of Holland's books as I recall. I found this to be unsatisfactory and over the years I experimented with small pieces of foam attached to a wood backing then blocks of Styrofoam and eventually cutting strips of foam plastic used as meat trays that I recycled and glued to Styrofoam. This worked a little better. Eventually I began slicing V grooves in the meat tray foam for better results. In 2016 after attending the first micro Lepidoptera meeting in Denver, Colorado I experimented with several of the techniques shown there and began working diligently to spread micros more efficiently.

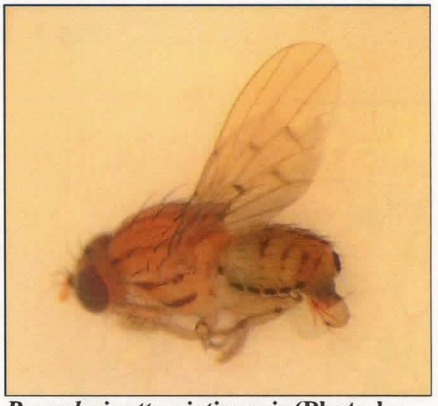
As a byproduct of my renewed and rejuvenated micro lepidoptera efforts I found a residue of micro Diptera left in my daily catch tray. I have found these micro Diptera to be fascinating and have also set a few of them on minutens but the volume was such that I could not keep up with both. I carefully collected the Diptera in a vial of Ethyl Alcohol for the "future."

In the past few years I have also been following some Diptera enthusiasts on Facebook. In particular a Diptera specialist in The Netherlands named Ruud van der Weele. He often receives vials of micro flies sent by friends who have collected them in many interesting places. He relates much delight and vigor in identifying these tiny insects.

When compared with my 4 or 6mm micro Lepidoptera to these flies, the moths look like giants! Most of the flies that I saved were 1 or 2mm which made them even difficult to place in the Alcohol.

While I was working I had my computer on and was glancing from time to time at Facebook where Ruud posted some of his recent IDs and it struck me that he might enjoy receiving some specimens from central Florida. I asked him if he would like some to which he responded yes, so on December 29th, 2016 I mailed him a package containing two small plastic vials containing hundreds of specimens and almost all of the alcohol drained off. I also sent data labels for the batch with the following information: USA, FL Brevard Co. Melbourne, Weston Park N 20 09 309B ~W 080 39 824 UV 13>27-XII- 2016 F. M. Blaine. Ruud commented that there were many Ephydridae and "but also a very pretty Lauxaniidae, namely a male *Poecoliminetta picticornis*. The fly itself is really pretty, but as far as I know the species has not been recorded before from Florida."

I have searched what records that I could find and I have not found it listed as being recorded from Florida either. I believe that this is a new record which was due to collecting Lepidoptera.



Poecolminetta picticornis **(Photo by Ruud van der Weele)**

*Ruud van der Weele, Vliegerweg 11, NL 4101 JK Culemborg, The Netherlands

F. Matthew Blaine
Curatorial Associate
Delaware Museum of Natural History
Research Associate
The Florida State Collection of Arthropods
Research Associate
The McGuire Center for Lepidoptera and Biodiversity at the Florida Museum of Natural History, University of Florida

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GIVIRA ARBELOIDES (DYAR, 1899) (LEPIDOPTERA: COSSIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

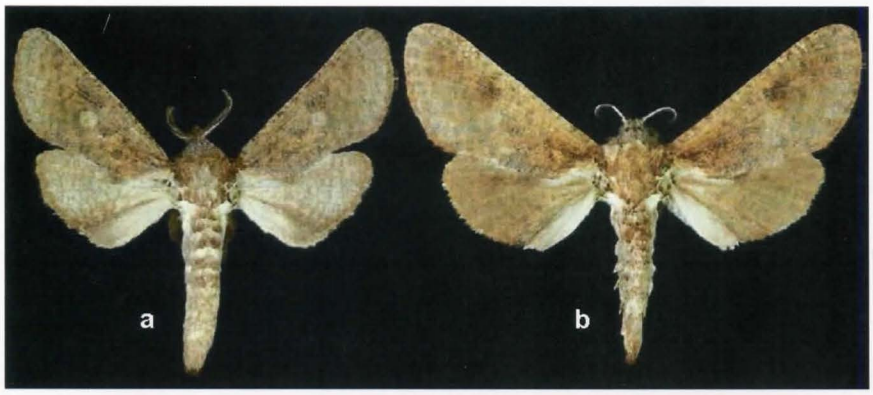

Fig. 1. ***Givira arbeloides*** phenotypes: a. male, b. female.

The small to medium in size, (brown mottled with maroon-brown) colored cossid moth ***Givira arbeloides*** (Dyar) (Fig. 1) is the second least common member of the genus occurring in Louisiana. Within the state, this species was captured using mercury vapor light traps, occurring from May into September (Fig. 2). Based upon this rather small sample population, it appears ***arbeloides*** may have at least two annual broods in Louisiana. This species was originally described in 1899 as ***Inguromorpha arbeloides*** Dyar.

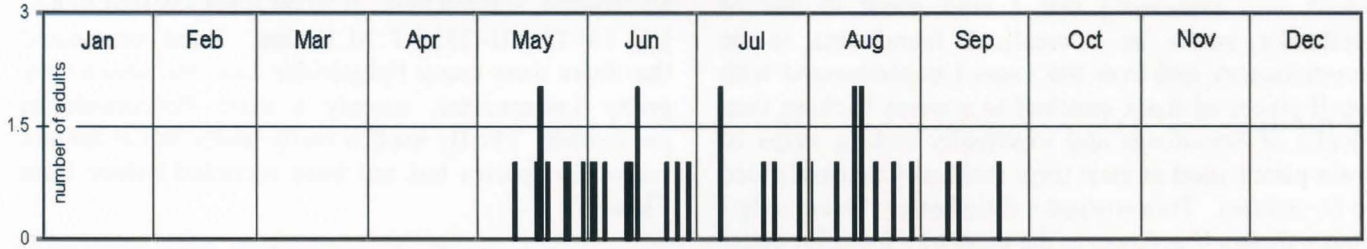

Fig. 2. Adult ***Givira arbeloides*** captured in Louisiana. n = 36

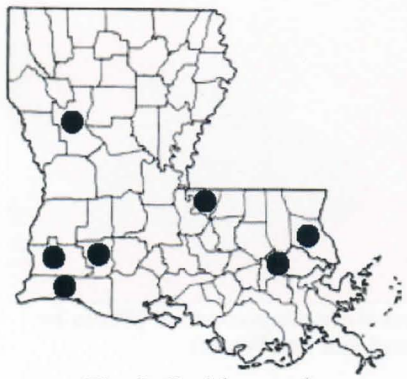

Fig. 3. Parish records for ***G. arbeloides***.

In their revision of North American Cossidae, Barnes and McDunnough (1911) listed one male ***arbeloides*** from Brownsville, Texas; C.H.T. Townsend, 11 June, 1895, U. S. Nat. Museum, type No. 4249. These same authors mentioned other specimens (adults) of this species from Texas locations: Houston, Brownsville, and Shovel Mt. This species was not covered by Grossbeck (1917) as occurring in the state of Florida, nor Covell (1984), nor Heppner (2003), nor Powell and Opler (2009). The Louisiana parish records are illustrated in Fig. 3.

I have now reported upon all seven known species of cossid moths occurring in Louisiana, including the least encountered species, ***Fania nana*** (Strecker) Brou (2008).

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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. xv + 496pp., 64 plates.

Dyar, H.G. 1899. Ent. News, X, 129.

Grossbeck, J.A., 1917. *Article I. Insects of Florida, Part IV, Lepidoptera.* Bull. Am. Mus. Nat. Hist. vol. XXXVII.

Heppner, J.B., 2003. *Arthropods of Florida and neighboring land areas*, vol. 17: Lepidoptera of Florida, Div. Plant Industry, Fla. Dept. Agr. & Consum. Serv., Gainesville. x + 670 pp., 55 plates.

Powell, J.A. and **P.A. Opler,** 2009. *Moths of Western North America*, Univ. Calif. Press xiii + 369 pp + 64 plates.

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

JUNE DAUS PRESTON

June 16, 1923 - January 13, 2017

After a 10-year struggle with Parkinson's disease and dementia, June Daus Preston passed away peacefully on January 13, 2017, with family, friends and her beloved husband Floyd by her side.

JUNE PRESTON

June was born June 16, 1923, in Los Angeles to Paul Harold Daus and Daphne Fortney Daus of Los Angeles, California. While in high school and during the first two years of college, she served as a Girl Scout counselor. In September 1941, she entered UCLA, majoring in astronomy. While a sophomore and later as a junior, she published two papers on the orbit of the newly discovered ninth satellite of Jupiter. In April of 1943, while a sophomore at UCLA, she met her future husband, Floyd Preston. She transferred to Berkeley to complete her astronomy degree and upon graduating in June of 1945, she returned to Los Angeles where she married Floyd on July 8, 1945.

They honeymooned in Yosemite where she took up Floyd's hobby of butterfly collecting which instantly become a joint avocation which they pursued together for the rest of their 71 year marriage.

Within a month of returning from their honeymoon, World War II ended and they moved to Ann Arbor, Michigan, where Floyd pursued his Master's in Chemical Engineering. While at Ann Arbor, June worked in the lens design section of Argus Camera, on the soon to be produced C3 Model. They returned to southern California where Floyd worked at Standard Oil of California as a research engineer. Their first child, Carl Bruce Preston, was born in Whittier in 1949. In January 1951, the family moved to State College, Pennsylvania where Floyd started on his doctorate in petroleum and natural gas. Their second child, Harold Wayne Preston, was born there in 1951. The family moved to Lawrence, Kansas in 1955 where Floyd had accepted a position as assistant professor of petroleum engineering. That year, their third son, Donald Floyd Preston was born. In 1958, their fourth son, Steven Dean Preston, was born. Shortly after Floyd was appointed associate professor of petroleum engineering, the family moved to Caracas, Venezuela, in 1959 where Floyd had accepted a two-year appointment as an adviser to the Venezuelan Oil Ministry. While in Caracas, June served as a cub scout den mother and again in Lawrence. The family's return to the United States in January of 1961 turned out to be the adventure of their lives as they were taken hostage for two weeks by Portuguese Nationalists when the cruise ship the family was on, the Santa Maria, was hijacked. Fortunately, for the Preston family, the adventure ended safely in Recife, Brazil.

Once back in Lawrence, their lives quickly returned to normal. June became active in Plymouth Women at Plymouth Congregational church as well as the local chapter of the social sorority, Beta Sigma Phi. She joined the Green Thumb Garden Club of which she was still a member, though inactive, at the time of her death. Foreign service called Floyd again, and in 1981, Floyd accepted a Fulbright Senior Lectureship in petroleum engineering at the University of the West Indies in Trinidad and June and Floyd moved to Trinidad in 1981. Upon their return to Lawrence in 1982, June was appointed Editor of "NEWS of the Lepidopterists' Society" where she served for nine years. Her outstanding service and leadership for the Lepidopterists' Society earned her the John A. Comstock award. The Preston family was honored by a butterfly recently named for them, "*Anthocharis julia prestonorum*" commonly known as the Western Colorado Orangetip. While Floyd was teaching, their summers were taken up with family travel including searching for butterflies to add to their growing collection. Upon Floyd's retirement in 1991, they traveled extensively throughout the United States, including Alaska and Canada. They also made short trips to Mexico, Ecuador, Brazil and Spain.

At the honeymoon start, there were 400 specimens in the collection. The collection grew to 4,000 by the time Floyd retired in 1991. The collection was donated to the McGuire Center for Lepidoptera and Biodiversity at the University of Florida in Gainesville in 2010. The collection had grown to almost 100,000 specimens. The McGuire Center said, "The Lepidopera collection assembled by June & Floyd Preston is without doubt one of the most significant collections of North America species ever assembled. It not only represents two

lifetimes of passionate pursuit of North America butterflies, but it represents the best possible example of a thorough and well organized collection. And its incredible organization is a large part of why it is so important to the scientific community. They should be extraordinarily proud of their incalculable contributions to the science of Lepidopterology."

In 2007, June was diagnosed with Parkinson's disease. Their last year of travel was 2008.

June is survived by her husband, Floyd W. Preston of the home; four sons, Bruce Preston (Linda), Fort Collins, CO, Harold Preston (Kathy) Carrolton, TX, Donald Preston (Bobbie Chapman) Kenmore, WA, Steven Preston (Sonia) Port Orchard, WA; 6 grandchildren; and 8 great grandchildren. June was preceded in death by her parents and sister, Lorel Lu.

A celebration of Life service for June Preston was held on February 3, 2017.

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REMEMBERING JUNE PRESTON

I had the pleasure in late February and early March of 2006 to go on a field trip in West Texas with June and Floyd Preston in search of *Megathymus yuccae* - specifically subspecies: *M. y. reubeni* and *M. y. winkensis*. I met the Preston's (for the first time) in Portales, New Mexico, June and Floyd traveling from Lawrence, Kansas, and I traveling from Lubbock, Texas. The trip was meant not only to collect specific *Megathymus* subspecies but also to be educational. June and Floyd were to teach me how to find the tents and then to "flush" out the larvae and/or pupae.

From Portales we traveled in two vehicles to Wink, Texas. The Preston's in their RV which had many if not most of the comforts of home and also set up to be a traveling lepidopera laboratory, and then me in my minivan with a butterfly net, kill jar, and a sleeping bag. [Keeping up with Floyd on the road was sometimes a challenge, especially in some areas where there was a lot of traffic. But I never lost him although almost did in El Paso (there was a lot of traffic) where he was planing to stay one night in a RV camp that he was familiar with.]

In the Wink area (Winkler County) on an oil field we looked at thousands of yuccae plants hoping to find tents which would then prompt us to examine the root system which hopefully would contain a larva/pupa. We had no success. And on to the next location!

***Magathymus yuccae reubeni*, ♂, eclosed March 7, 2006 (pupa collected March 2, 2006, by June Preston, 1 mile N. of US 62/10 on TX2775, El Paso, Co., El. 4600')**

***Magathymus yuccae reubeni*, ♀, eclosed March 8, 2006 (pupa collected March 2, 2006, by J. Barry Lombardini, 1 mile N. of US 62/10 on TX2775, El Paso, Co., El. 4600')**

Finally we arrived in El Paso County and on the road to Hueco Tanks State Park we were successful in finding 2 fresh tents (again after looking at thousands of yuccae plants) with viable pupae in the root system. (June found the tent which led us to the male pupa and I found the tent leading to the female pupa.) These two pupae (*Magathymus yuccae reubeni*) were brought back to Lubbock where they hatched 5 and 6 days later (See Figs).

On the last day, I thanked June and Floyd for their company and education and we parted, they went further west on to Arizona to collect and I returned to Lubbock.

If my memory is correct (getting old) the field trip was 5 days and 4 nights, approximately 1000 miles. Some may think that this was a lot of time and expense for not much success — just two larvae. However, it was a great success. The company of June and Floyd was absolutely wonderful. In the evenings June would fix supper and we talked about everything including lepidoptera. In the late mornings and early afternoon we were in fields of yuccae each going in separate directions, checking each and every plant for a tent. June and Floyd kept in contact with each with Walkie Talkies. (I talked to myself.) We found a few old tents from most likely the previous year and then as stated above two fresh tents with pupae in the root system. June was most gracious in giving me the pupa of the male *M. yuccae reubeni*.

All in all - a great trip!

The trip is over and June is no longer with us, her collecting days are over. She will be missed most especially by her devoted husband, Floyd, and her family, and I, a field trip guest. Members of the SLS send their sincerest condolences to Floyd and his family.

Barry Lombardini

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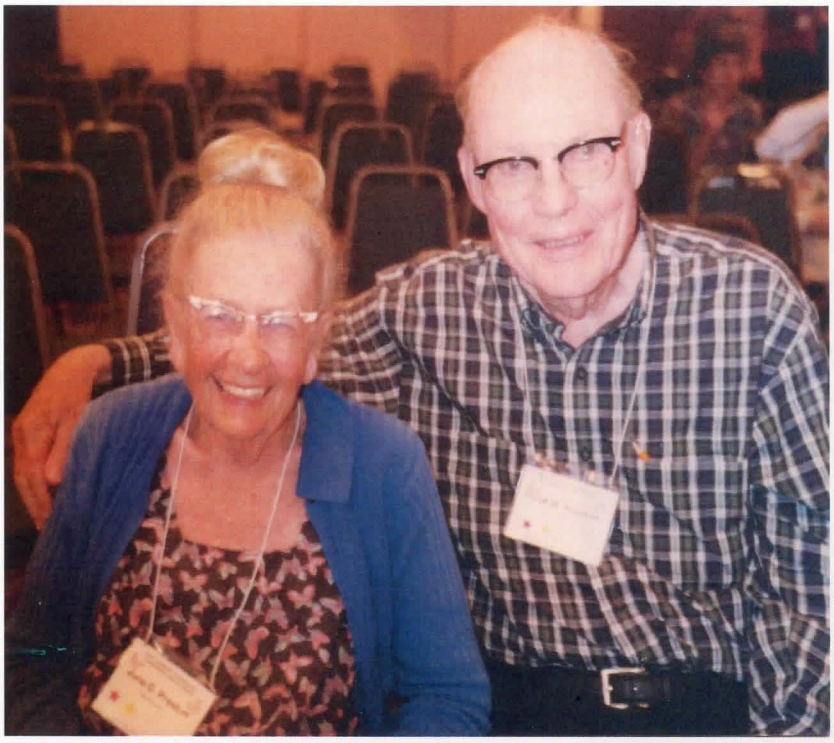

June and Floyd (Sierra Vista, Arizona)

June and Jim Tuttle

June and Floyd (2003 meeting in Alberta) and of course their very unique travel vehicle:

**"Preston's
Portable Pad
and
Lepidopterology
LAB"**

[Charlie Covell sent in the above 3 photographs.]

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***Heliopetes laviana, Electrostrymon guzanta*, and *Calephelis nemesis* on *Taumalipia azurea*, National Butterfly Center, Hidalgo Co., TX. (29-I-2017) (Photo by Mike Rickard).**

The Butterflies of North Carolina: A Photographic Gallery
Part 2 – Skippers

by

Parker Backstrom

In the last issue of the Southern Lepidopterists' News (Volume 38, Number 4: 294-313), I presented Part 1 of The Butterflies of North Carolina, a photographic gallery and annotated list treating the 104 species of true butterflies that occur, or are known to have occurred in North Carolina. In this issue I present Part 2, a photo gallery and annotated list treating the 73 species of skippers officially recognized as part of the state's lepifauna. All of the featured photographs were taken in the wild, and all were taken in the state.

Three species do not have accompanying illustrations. Individuals that were collected and proved to be White Checkered-Skippers (*Pyrgus albescens*) through genitalic examination were not photographed in their live state. Conversely, individuals suspected of being *P. albescens* have been photographed, but none were collected for examination. While Loammi Skipper (*Atrytonopsis loammi*) has been collected in North Carolina, as best as can be determined no one has ever photographed it in the field. This is also the case with Cofaqui Giant-Skipper (*Megathymus cofaqui*), which has been both collected and seen—but not photographed—in adult form; photos do exist, though, of its ova and larval tents.

I have included one species about which there exists some question. While two separate sightings of individuals presumed to be Funereal Duskywing (*Erynnis funeralis*) have been counted as that species, it is thought by some that the phenotypic appearance of each did not fall so far outside the range of variation for Zarucco Duskywing (*E. zarucco*) as to definitively eliminate that species as a possibility. So while an argument might have been made for non-inclusion of *E. funeralis* in this treatment, I opted to include it based upon its currently accepted status in LeGrand and Howard (2016), upon which both parts 1 and 2 are based. However, readers are referred to that work for a more thorough discussion of these records.

While the official state list currently stands at 177 species of butterflies and skippers, this figure is expected to grow. Readers are again referred to LeGrand and Howard (2016) for a list and discussion of 17 additional species that the authors consider might now, or could possibly one day occur in North Carolina.

The scientific nomenclature used in this article follows Warren, et al. (2016).

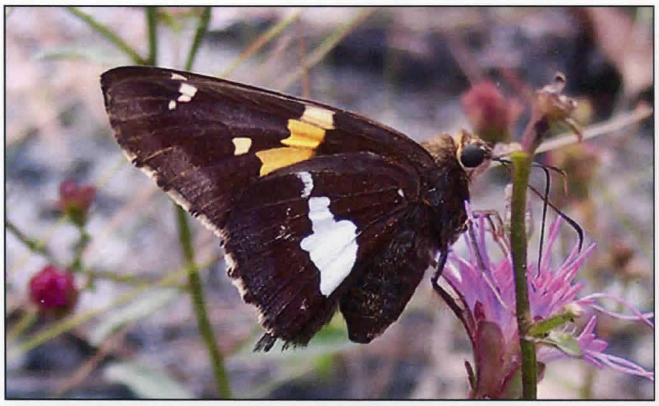

Fig. 1. Silver-spotted Skipper (*Epargyreus clarus*)
2004-Oct-14 – Richmond Co NC

Fig. 2. Long-tailed Skipper (*Urbanus proteus*)
2005-Aug-27 – Pender Co NC

Fig. 3. Dorantes Longtail (*Urbanus dorantes*)
2007-Jun-05 – Orange Co NC

Fig. 4. Golden Banded-Skipper (*Autochton cellus*)
2006-Jul-06 – Buncombe Co NC

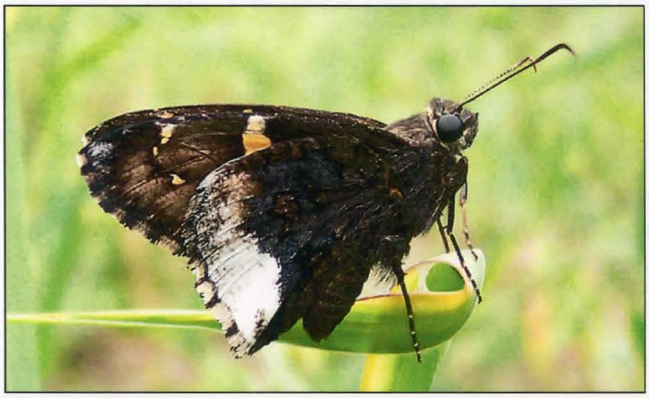

Fig. 5. Hoary Edge (*Achalarus lyciades*)
2004-Jul-19 – Chatham Co NC

Fig. 6. Southern Cloudywing (*Thorybes bathyllus*)
2004-Jul-19 – Chatham Co NC

Fig. 7. Northern Cloudywing (*Thorybes pylades*)
2002-Apr-28 – Granville Co NC

Fig. 8. Confused Cloudywing (*Thorybes confusis*)
2004-Aug-02 – Moore Co NC

Fig. 9. Hayhurst's Scallopwing (*Staphylus hayhurstii*)
2004-Jul-29 – Wake Co NC

Fig. 10. Dreamy Duskywing (*Erynnis icelus*)
2007-Apr-28 – Ashe Co NC

Fig. 11. Sleepy Duskywing (*Erynnis brizo*)
2005-Apr-18 – Harnett Co NC

Fig. 12. Juvenal's Duskywing (*Erynnis juvenalis*)
2008-Apr-13 – Chatham Co NC

Fig. 13. Horace's Duskywing (*Erynnis horatius*)
2004-Jun-07 – Chatham Co NC

Fig. 14. Mottled Duskywing (*Erynnis martialis*)
2005-May-12 – Ashe Co NC

Fig. 15. Zarucco Duskywing (*Erynnis zarucco*)
2004-Sep-04 – Scotland Co NC

Fig. 16. Funereal Duskywing (*Erynnis funeralis*)
2010-Aug-04 – Brunswick Co NC

Fig. 17. Wild Indigo Duskywing (*Erynnis baptisiae*)
2012-May-25 – Cherokee Co NC

Fig. 18. Grizzled Skipper (*Pyrgus centaureae wyandot*)
2007-Mar-31 – Ashe Co NC

Fig. 19. Common Checkered-Skipper (*Pyrgus communis*) 2006-Aug-12 – Chatham Co NC

Fig. 20. Tropical Checkered-Skipper (*Pyrgus oileus*) 2009-Sep-30 – New Hanover Co NC

Fig. 21. Common Sootywing (*Pholisora catullus*) 2004-Aug-05 – Wake Co NC

Fig. 22. Swarthy Skipper (*Nastra lherminier*) 2007-Jul-20 – Orange Co NC

Fig. 23. Clouded Skipper (*Lerema accius*) 2008-Aug-22 – Chatham Co NC

Fig. 24. Least Skipper (*Ancyloxypha numitor*) 2004-Jun-21 – Chatham Co NC

Fig. 25. Southern Skipperling (*Copaeodes minima*) 2004-Aug-26 – Harnett Co NC

Fig. 26. European Skipper (*Thymelicus lineola*) 2007-Jul-07 – Ashe Co NC

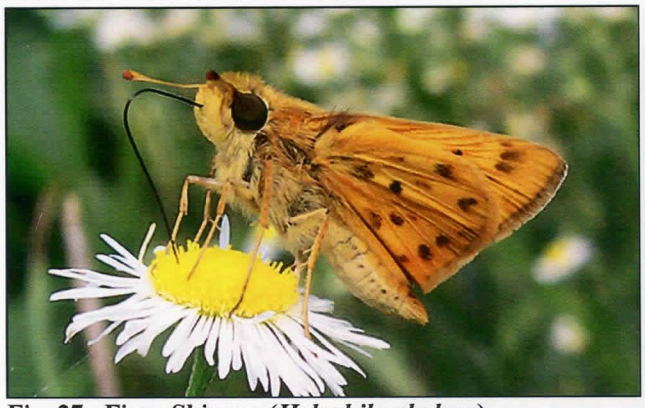

Fig. 27. Fiery Skipper (*Hylephila phyleus*)
2004-Jun-10 – Chatham Co NC

Fig. 28. Leonard's Skipper (*Hesperia leonardus*)
2007-Sep-30 – Chatham Co NC

Fig. 29. Cobweb Skipper (*Hesperia metea*)
2006-Apr-16 – Alleghany Co NC

Fig. 30. Dotted Skipper (*Hesperia attalus*)
2004-Sep-04 – Scotland Co NC

Fig. 31. Meske's Skipper (*Hesperia meskei*)
2004-Oct-10 – Moore Co NC

Fig. 32. Indian Skipper (*Hesperia sassacus*)
2005-May-13 – Haywood Co NC

Fig. 33. Peck's Skipper (*Polites peckius*)
2007-May-26 – Clay Co NC

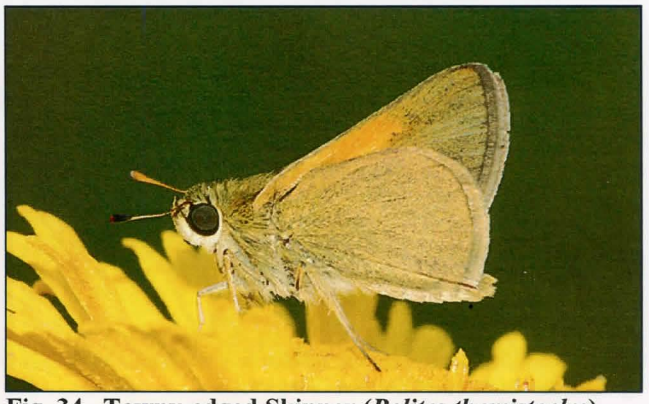

Fig. 34. Tawny-edged Skipper (*Polites themistocles*)
2008-Aug-16 – Carteret Co NC

Fig. 35. Crossline Skipper (*Polites origenes*)
2012-Aug-26 – Chatham Co NC

Fig. 36. Long Dash (*Polites mystic*)
2007-Jun-01 – Alleghany Co NC

Fig. 37. Whirlabout (*Polites vibex*)
2008-Oct-11 – Moore Co NC

Fig. 38. Southern Broken-dash (*Wallengrenia otho*)
2007-Aug-18 – Chatham Co

Fig. 39. Northern Broken-dash (*Wallengrenia egeremet*) 2003-Aug-17 – Durham Co NC

Fig. 40. Little Glassywing (*Pompeius verna*)
2005-Aug-04 – Chatham Co NC

Fig. 41. Sachem (*Atalopedes campestris*)
2010-Jun-28 – Chatham Co NC

Fig. 42. Arogos Skipper (*Atrytone arogos*)
2004-Aug-29 – Carteret Co NC

Fig. 43. Delaware Skipper (*Anatrytone logan*)
2004-Aug-26 – Harnett Co NC

Fig. 44. Byssus Skipper (*Problema byssus*)
2005-Aug-27 – New Hanover Co NC

Fig. 45. Rare Skipper (*Problema bulenta*)
2007-Aug-12 – New Hanover Co NC

Fig. 46. Hobomok Skipper (*Poanes hobomok*)
2007-Jun-01 – Alleghany Co NC

Fig. 47. Zabulon Skipper (*Poanes zabulon*)
2008-Aug-22 – Chatham Co NC

Fig. 48. Aaron's Skipper (*Poanes aaroni*)
2006-Sep-16 – Dare Co NC

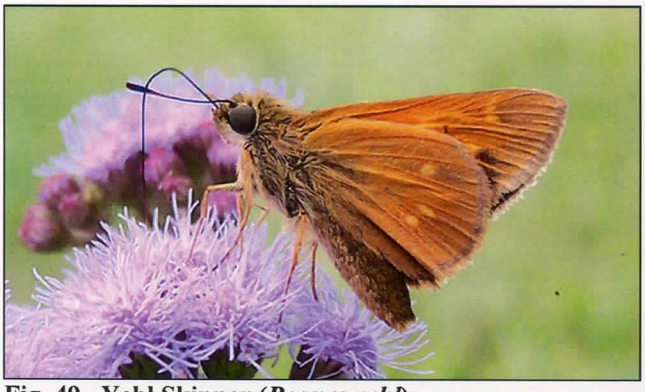

Fig. 49. Yehl Skipper (*Poanes yehl*)
2004-Sep-11 – Hyde Co NC

Fig. 50. Broad-winged Skipper (*Poanes viator*)
2005-Aug-25 – Chatham Co NC

Fig. 51. Palatka Skipper (*Euphyes pilatka*)
2003-Oct-03 – Dare Co NC

Fig. 52. Dion Skipper (*Euphyes dion*)
2006-Sep-16 – Dare Co NC

Fig. 53. Dukes' Skipper (*Euphyes dukesi*)
2004-Aug-28 – Brunswick Co NC

Fig. 54. Berry's Skipper (*Euphyes berryi*)
2006-Aug-27 – Craven Co NC

Fig. 55. Two-spotted Skipper (*Euphyes bimacula*)
2007-Jun-01 – Alleghany Co NC

Fig. 56. Dun Skipper (*Euphyes vestris*)
2004-Aug-17 – Johnston Co NC

Fig. 57. Dusted Skipper (*Atrytonopsis hianna*)
2009-Apr-25 – Pender Co NC

Fig. 58. Crystal Skipper (*Atrytonopsis quinteri*)
2005-May-04 – Carteret Co NC

Fig. 59. Pepper and Salt Skipper (*Amblyscirtes hegon*) 2005-May-21 – Clay Co NC

Fig. 60. Lace-winged Roadside-Skipper (*Amblyscirtes aesculapius*) 2012-Apr-09 – Madison Co NC

Fig. 61. Carolina Roadside-Skipper (*Amblyscirtes carolina*) 2004-Aug-26 – Harnett Co NC

Fig. 62. Reversed Roadside-Skipper (*Amblyscirtes reversa*) 2009-Apr-25 – Pender Co NC

Fig. 63. Common Roadside-Skipper (*Amblyscirtes vialis*) 2005-Jul-26 – Ashe Co NC

Fig. 64. Dusky Roadside-Skipper (*Amblyscirtes alternata*) 2008-Apr-19 – Pender Co NC

Fig. 65. Eufala Skipper (*Lerodea eufala*) 2012-Oct-06 – Durham Co NC

Fig. 66. Twin-spot Skipper (*Oligoria maculata*) 2004-Aug-29 – Carteret Co NC

Fig. 67. Brazilian Skipper (*Calpodes ethlius*)
2004-Aug-28 – New Hanover Co NC

Fig. 68. Salt Marsh Skipper (*Panoquina panoquin*)
2005-Aug-27 – New Hanover Co NC

Fig. 69. Ocola Skipper (*Panoquina ocola*)
2006-Jul-29 – Chatham Co NC

Fig. 70. Yucca Giant-Skipper (*Megathymus yuccae*)
2005-Apr-06 – Moore Co NC

Annotated List of the Skippers of North Carolina

The information below is summarized from LeGrand and Howard (2016). Their comprehensive treatment of North Carolina's butterflies—which is available only in electronic form (though a printable version is provided)—is a tremendous resource for those interested in butterflies of the Carolinas. Because the information below is highly summarized, and in a number of cases oversimplified, readers are strongly encouraged to refer to this resource for a more thorough treatment of all of the state's butterflies.

Silver-spotted Skipper (*Epargyreus clarus*) – Fig. 1. While common and widespread across the state, it is often abundant in the Mountain Region. Flies early spring to late fall.

Long-tailed Skipper (*Urbanus proteus*) – Fig. 2. Scattered records from across state but most common in the southern Coastal Plain. Uncommon in the Piedmont, becoming rare to very rare in the mountains. Flies mid-summer to late fall with peak abundance mid-fall.

Dorantes Longtail (*Urbanus dorantes*) – Fig. 3. Casual to very rare migrant from the south. Eight records concentrated in the northeast Piedmont. Known dates from early summer to mid-fall. Possibly less rare than currently believed given its similarity to *U. proteus*.

Golden Banded-Skipper (*Autochton cellus*) – Fig. 4. Among the most poorly understood and least encountered of the state's breeding species. Limited almost exclusively to the mountains, where it is rare to very rare. Two broods, the larger of the two in spring.

Hoary Edge (*Achalarus lyciades*) – Fig. 5. Widespread across most of the state, being uncommon to common in parts of the Piedmont and Coastal Plain, and generally uncommon to rare elsewhere. Two broods, flying early spring through late summer.

Southern Cloudywing (*Thorybes bathyllus*) – Fig. 6. Found across the state. Common in the Piedmont and southern Coastal Plain, uncommon to rare elsewhere. Flies early spring to mid-fall but most numerous in late summer.

Northern Cloudywing (*Thorybes pylades*) – Fig. 7. Widespread across the state. Generally common across much of the Piedmont and Sandhills, it is uncommon to rare in the mountains and much of the Coastal Plain. Two broods, the larger of the two in spring.

Confused Cloudywing (*Thorybes confusis*) – Fig. 8. Shows a patchy, incompletely understood distribution pattern. Generally uncommon in the southern Coastal Plain and eastern Piedmont, it is rare elsewhere in those provinces and very rare in the mountains. Flight profile very similar to that of *T. pylades*.

Hayhurst's Scallopwing (*Staphylus hayhurstii*) – Fig. 9. Considered rare to locally uncommon across portions of Piedmont and Coastal Plain, very rare, at best, in the mountains. Multi-brooded with several flights from early spring to early fall.

Dreamy Duskywing (*Erynnis icelus*) – Fig. 10. A single-brooded, early spring to early summer flier limited almost entirely to the mountains—where it is common to locally abundant—and foothills. Small populations have also been found in the northern Piedmont, though it is considered rare and very local there.

Sleepy Duskywing (*Erynnis brizo*) – Fig. 11. Widespread across the state, although it is most common in the mountains and Sandhills. In the Piedmont and southern Coastal Plain it is considered rare to uncommon. A single, early spring flight.

Juvenal's Duskywing (*Erynnis juvenalis*) – Fig. 12. The most widely distributed *Erynnis*, being found statewide. Common to abundant in the mountains and Piedmont, common to very common in most of the Coastal Plain. A single flight, early to late spring.

Horace's Duskywing (*Erynnis horatius*) – Fig. 13. Widespread and generally common across the state. Flies spring to mid-fall, though numbers peak during the summer months. And although the earliest part of its flight period overlaps that of *E. juvenalis*, it is the far less abundant of the two during that time.

Mottled Duskywing (*Erynnis martialis*) – Fig. 14. Most likely to be found in the southern mountains, where it is rare. There are also scattered records of this highly-prized species from pockets in the Piedmont, where it is very rare to rare. Two flights, the spring flight being greater than the summer. Thought to be declining in the state.

Zarucco Duskywing (*Erynnis zarucco*) – Fig. 15. Generally considered uncommon in the Piedmont and Coastal Plain, away from the Sandhills and southeastern corner, where it is fairly common. Rare in the southern half of the Mountain Province. Multiple broods with the fall flight being the largest.

Funereal Duskywing (*Erynnis funeralis*) – Fig. 16. Two records of this accidental visitor, both coming from the southeasternmost counties, one in late summer, the other in mid-fall.

Wild Indigo Duskywing (*Erynnis baptisiae*) – Fig. 17. Uncommon across much of the state but can be locally common in the mountains and portions of the Sandhills. Rare across most of the Piedmont and at least rare in the Coastal Plain. Several broods from early spring to early fall with peak abundance in late summer.

Grizzled Skipper (*Pyrgus centaureae wyandot*) – Fig. 18. A single, early spring flight. Very rare in the northernmost mountains with a historical record from the southernmost foothills.

Common Checkered-Skipper (*Pyrgus communis*) – Fig. 19. Widespread and generally common statewide, although considered rare to very uncommon in the mountains. On the wing starting early spring but abundance builds through the summer and peaks in the fall.

White Checkered-Skipper (*Pyrgus albescens*) – Unfigured. A scattering of records from two coastal counties in mid-summer and mid-fall, and one Piedmont site, date unknown. Occurrence confirmed through examination of specimens. There is much to be learned about its true status in the state, but data suggest it is expanding its range northward so additional records are expected.

Tropical Checkered-Skipper (*Pyrgus oileus*) – Fig. 20. Two records from the southeastern Coastal Plain in the fall, though additional records are expected. A historical record from the mountains lacks data.

Common Sootywing (*Pholisora catullus*) – Fig. 21. Widespread across the state. Considered generally uncommon, though may be locally common in places. Flies early spring through summer with numbers peaking in fall.

Swarthy Skipper (*Nastra lherminier*) – Fig. 22. Widespread across the state and generally common in portions of the Coastal Plain and Piedmont. Generally uncommon or rare elsewhere. Two flight periods, the fall flight being larger than the spring.

Clouded Skipper (*Lerema accius*) – Fig. 23. Widespread and common to very common across the state. Although its long flight period begins in the spring, it is considered generally uncommon anywhere before fall, when numbers peak.

Least Skipper (*Ancyloxypha numitor*) – Fig. 24. Found statewide but tends to occur mostly locally. May be common to abundant in the proper habitat. Multi-brooded and on the wing mid-spring into mid-fall.

Southern Skipperling (*Copaeodes minima*) – Fig. 25. Uncommon to locally common—though typically inconspicuous—from the eastern Piedmont across the southern portion of the Coastal Plain, rare in the northern portions of those provinces. Multi-brooded and flying early summer into late fall.

European Skipper (*Thymelicus lineola*) – Fig. 26. Currently found only in the northernmost mountains, where it is rare and local, although it can be common in a few locations. A single, summer flight.

Fiery Skipper (*Hylephila phyleus*) – Fig. 27. Although considered rare in the southern mountains, this familiar species becomes uncommon to common, to at times abundant moving eastward across the state. Flying mid-spring into late fall, it is most numerous after mid-summer.

Leonard's Skipper (*Hesperia leonardus*) – Fig. 28. A single, mid-fall flight period. Present in scattered locations across the eastern Piedmont, where it is rare to uncommon, and northern mountains, where it is considered very rare to rare. May be on the decline.

Cobweb Skipper (*Hesperia metea*) – Fig. 29. A single, spring flight period. Considered rare to locally uncommon in the Sandhills and portions of the Piedmont, very rare in the mountains. As with *H. leonardis*, feared to be on the decline.

Dotted Skipper (*Hesperia attalus*) – Fig. 30. Although there are historical records from the eastern half of the Coastal Plain, this species is now known only from the Sandhills region, where it is uncommon to locally common. Two flight periods with greater numbers in fall than in spring.

Meske's Skipper (*Hesperia meskei*) – Fig. 31. Found primarily in the Sandhills in the fall, where and when it is considered uncommon to fairly common. Very rare elsewhere in the southern Coastal Plain. Also has a much smaller spring flight.

Indian Skipper (*Hesperia sassacus*) – Fig. 32. Restricted to the mountains, being uncommon in the north and rare to locally uncommon in the south. One flight in spring to early summer.

Peck's Skipper (*Polites peckius*) – Fig. 33. A species largely of the mountains, where it is generally common. Also known from scattered locations in the foothills and northwestern Piedmont, though it is rare to uncommon in both. Multi-brooded and on the wing from spring through mid-fall.

Tawny-edged Skipper (*Polites themistocles*) – Fig. 34. Found statewide, although considered generally uncommon throughout. Can be locally numerous in suitable habitats along the coast. Two broods, late spring and late summer into fall. Commonly confused with the more abundant *P. origenes*.

Crossline Skipper (*Polites origenes*) – Fig. 35. Occurs statewide. Common throughout except the Coastal Plain, where it is considered uncommon. Flight profile virtually mirrors that of *P. themistocles*.

Long Dash (*Polites mystic*) – Fig. 36. Known only from a small handful of sites in the northernmost mountains. Considered rare to very rare, although it can be relatively common at one site. One late spring to early summer brood.

Whirlabout (*Polites vibex*) – Fig. 37. Uncommon to fairly common across the Coastal Plain, particularly the Sandhills region, with records also from the eastern and southern Piedmont, where it is considered rare. A handful of records from the southern mountains likely represent strays. Several broods, early spring through fall.

Southern Broken-dash (*Wallengrenia otho*) – Fig. 38. Widespread and common in the Coastal Plain and eastern Piedmont, this species becomes less common westward until becoming very rare in the mountains. Of spring and late summer flight periods, the latter is greater.

Northern Broken-dash (*Wallengrenia egeremet*) – Fig. 39. Occurs statewide but it is still considered just uncommon in the Mountain and Piedmont regions, becoming very rare to rare in the Coastal Plain. Like *W. otho* it has spring and late summer flight periods, the latter the larger of the two.

Little Glassywing (*Pompeius verna*) – Fig. 40. Widespread across the state and generally common west of the Coastal Plain; it is uncommon to rare across that province. Flight periods and seasonal abundance virtually mirror those of *Wallengrenia egeremet*.

Sachem (*Atalopedes campestris*) – Fig. 41. Among the state's most familiar skippers. Common or abundant everywhere except the southern Coastal Plain, where it is only uncommon. Multi-brooded and on the wing from early spring to late fall, reaching peak abundance in late summer.

Arogos Skipper (*Atrytone arogos arogos*) – Fig. 42. Although never considered more than very rare in the southern Coastal Plain, this species managed to maintain a tenuous presence at one site along the coast. Regrettably, an ill-timed fire several years ago appears to have brought its presence in North Carolina to an end as it hasn't been seen since. The species had two flights, both relatively brief, one in the spring and a larger one in late summer.

Delaware Skipper (*Anatrytone logan*) – Fig. 43. Although widespread across the state, this species is considered only uncommon to fairly common everywhere but the mountains, where it is generally rare. Flies early summer to mid-fall.

Byssus Skipper (*Problema byssus*) – Fig. 44. Largely of the southern Coastal Plain, where it is considered uncommon to fairly common. It reaches the western edge of its range in the Sandhills, with records scattered across the eastern Piedmont; it is rare to very rare in both. Has a small flight in early summer but reaches its peak abundance in late summer to early fall.

Rare Skipper (*Problema bulenta*) – Fig. 45. Restricted to tidal marshes in the very southeastern corner of the state, where it is rare to uncommon. Limited access to prime habitat may skew our understanding of its abundance. A reduced flight takes place in early summer, a more prolonged flight in late summer.

Hobomok Skipper (*Poanes hobomok*) – Fig. 46. Widespread and generally common in the mountains, rare in portions of the western and northern Piedmont. A single flight spanning early spring to mid-summer.

Zabulon Skipper (*Poanes zabulon*) – Fig. 47. Widespread and common in the mountains and Piedmont, it is generally uncommon in most of the Coastal Plain. Two largely equivalent flight periods, one in spring and the other in late summer.

Aaron's Skipper (*Poanes aaroni*) – Fig. 48. Restricted to marshes in northern tidewater counties, where it is rare northward and uncommon to fairly common toward the south. Two-brooded with a much reduced flight in late spring, a more robust flight in early fall.

Yehl Skipper (*Poanes yehl*) – Fig. 49. Found across most of the Coastal Plain, where it is uncommon to locally common. It becomes very rare to rare in portions of the Piedmont. Two flights, fall being larger than early summer.

Broad-winged Skipper (*Poanes viator*) – Fig. 50. Once thought limited to tidal marshes primarily in the eastern half of the Coastal Plain, where it is common to abundant. Found fairly recently at several disparate sites in the eastern Piedmont, though it is considered very rare to locally numerous inland. Its two flight periods are similar to those of *P. yehl*, but slightly earlier.

Palatka Skipper (*Euphyes pilatka*) – Fig. 51. Common to uncommon, though largely localized in tidewater marshes of the eastern Coastal Plain. Flies late spring to early summer and again early to mid-fall.

Dion Skipper (*Euphyes dion*) – Fig. 52. Uncommon to fairly common in portions of the Coastal Plain, mostly rare to uncommon in portions of the northeastern and southern Piedmont. Two flight periods, early summer and early fall.

Dukes' Skipper (*Euphyes dukesi*) – Fig. 53. Rare, local, and scattered along the coast. Where found it can sometimes be found in numbers. Two broods, flying early summer and again late summer, when numbers peak.

Berry's Skipper (*Euphyes berryi*) – Fig. 54. Considered very rare and local across the eastern Coastal Plain. Apparently two broods, the first reduced. Most numerous in late summer to early fall.

Two-spotted Skipper (*Euphyes bimacula*) – Fig. 55. Widely scattered across the Coastal Plain with an isolated population in the northern mountains. Considered very rare everywhere, though in the mountains it can be locally common. Flies mid-spring and late summer.

Dun Skipper (*Euphyes vestris*) – Fig. 56. Widespread across the state and considered generally common everywhere except the mountains, where it is uncommon. Flies spring into fall with greatest numbers in late summer.

Dusted Skipper (*Atrytonopsis hianna*) – Fig. 57. Considered mostly uncommon in the eastern Piedmont and Sandhills, rare to very rare in the mountains and Coastal Plain. A single, early spring flight.

Loammi Skipper (*Atrytonopsis loammi*) – Unfigured. Formerly known from two counties in the southeasternmost Coastal Plain, where it was very rare and local, it is now considered historical. Data scarce but apparently two flights, early spring and late summer.

Crystal Skipper (*Atrytonopsis quinteri*) – Fig. 58. Endemic to North Carolina. Although known from a handful of sites within just two mid-coastal counties, it is common where it occurs. Two broods, early spring and late summer.

Pepper and Salt Skipper (*Amblyscirtes hegon*) – Fig. 59. Widely distributed throughout the mountains and foothills, though it is uncommon in both. Generally rare across the portions of the Piedmont where it occurs. Spring brood larger than an early summer brood.

Lace-winged Roadside-Skipper (*Amblyscirtes aesculapius*) – Fig. 60. The most widespread *Amblyscirtes*. Uncommon to locally common in the Coastal Plain, rare to uncommon in the Piedmont, very rare to rare in the mountains. Multi-brooded and on the wing early spring to early fall.

Carolina Roadside-Skipper (*Amblyscirtes carolina*) – Fig. 61. Uncommon to locally common in the Coastal Plain, it edges into the southern Piedmont, though it is very rare there. Multi-brooded, it flies early spring to early fall.

Reversed Roadside-Skipper (*Amblyscirtes reversa*) – Fig. 62. Generally rare to very uncommon in the eastern Coastal Plain and Sandhills. Very to extremely rare at a handful of sites in the Piedmont and southern mountains. Three flight periods between early spring and early fall.

Common Roadside-Skipper (*Amblyscirtes vialis*) – Fig. 63. Known mostly from the Piedmont region, where it is rare to uncommon. It is rare in the mountains and uncommon in the Sandhills region, the eastern edge of its range. Several flight periods, the largest in the spring.

Dusky Roadside-Skipper (*Amblyscirtes alternata*) – Fig. 64. The least common of the state's *Amblyscirtes*, it is considered very rare or rare in the Sandhills and southern coastal counties. Multi-brooded, it flies early spring to late summer.

Eufala Skipper (*Lerodes eufala*) – Fig. 65. Scattered across much of the Coastal Plain and Piedmont, it is rare to uncommon across both, though it can be fairly common in the southeastern corner of the former. Flies early summer to late fall.

Twin-spot Skipper (*Oligoria maculata*) – Fig. 66. Uncommon to locally common across the eastern Coastal Plain in early and late summer. Scattered records as far west as the Sandhills, although it is very rare away from the coast.

Brazilian Skipper (*Calpodes ethlius*) – Fig. 67. Considered rare overall with records scattered widely, primarily across the Coastal Plain but stretching into the Piedmont. Although it does have a spring brood, it is more numerous in fall when numbers are augmented by northbound migrants.

Salt Marsh Skipper (*Panoquina panoquin*) – Fig. 68. Confined entirely to coastal counties, though it is common to abundant where found. Flies early spring to mid-fall.

Ocola Skipper (*Panoquina ocola*) – Fig. 69. Widespread. Common to abundant in the Piedmont and Coastal Plain, especially in mid-fall. Very rare to rare in the mountains. Flies mid-summer into late fall. Like *Calpodes ethlius*, numbers augmented annually by influx of migrants from the south.

Yucca Giant-Skipper (*Megathymus yuccae*) – Fig. 70. Found primarily across the southern half of the Coastal Plain, including the Sandhills, where it is uncommon and local. Rare and local in the western portion of the Piedmont. A single, early spring flight.

Cofaqui Giant-Skipper (*Megathymus cofaqui*) – Unfigured. Considered extremely rare and known from just two sites—one historical—in the foothills portion of the Piedmont. One flight period in mid-summer. Arguably the state's most poorly understood and mysterious species.

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VANITAS - STILL LIFE

(Continued from page 34)

Balthasar van der Ast was born in the Dutch Republic in 1593/1594 and died in 1657. He specialized in still life paintings mainly of flowers, fruit, and shells. In his paintings he usually added butterflies (and other insects) and lizards. Note the butterfly in the upper left corner. The butterfly denotes death.

Painted ~ 1622

https://en.wikipedia.org/wiki/Balthasar_van_der_Ast

SIMYRA INSULARIS (HERRICH - SCHÄFFER, 1868) (LEPIDOPTERA: NOCTUIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

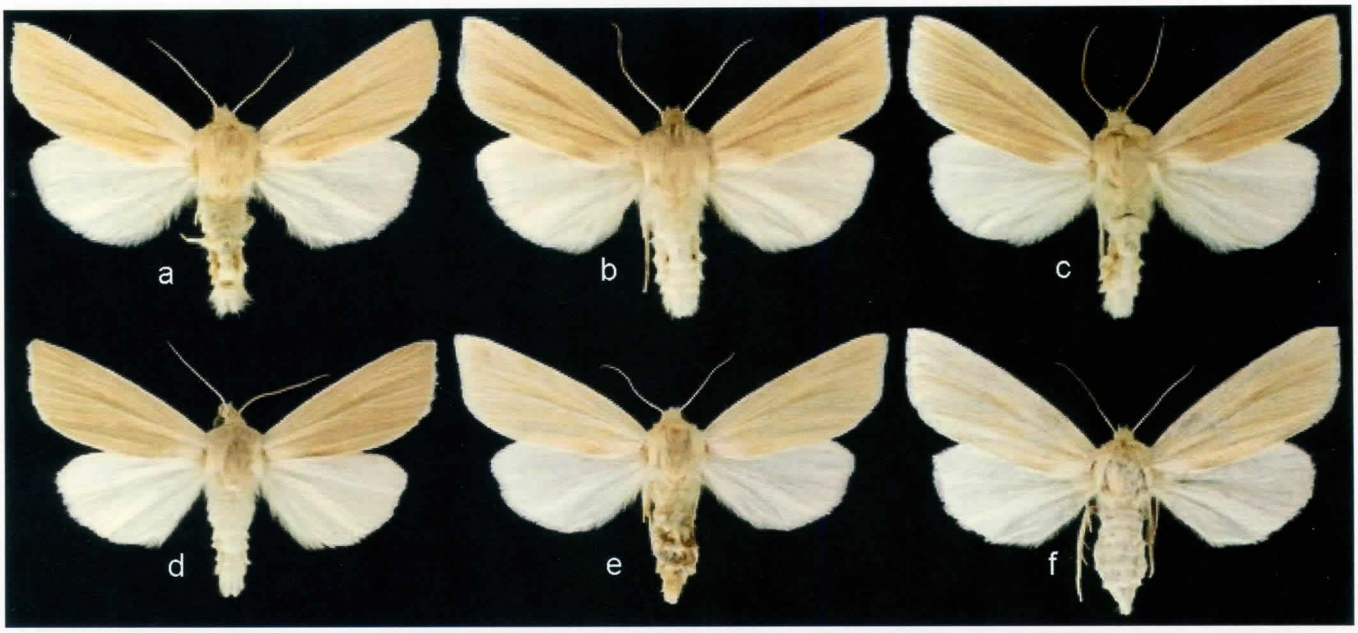

Fig. 1. ***Simyra insularis*:** males a-d, females e-f.

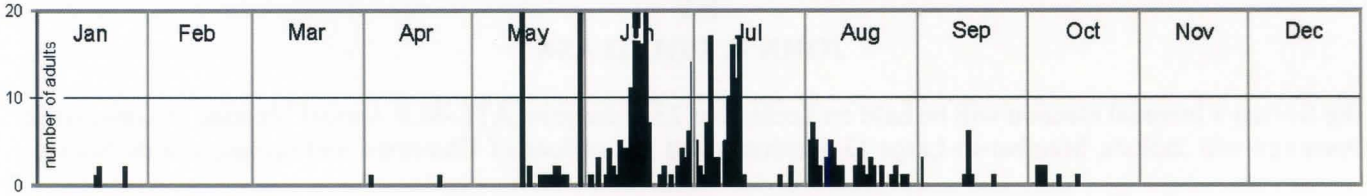

Fig. 2. Adult *Simyra insularis* captured in Louisiana. n = 513

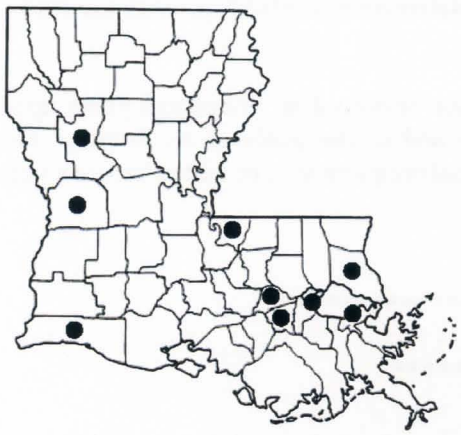

Fig. 3. Parish records for ***A. insularis***.

The noctuid moth ***Simyra insularis*** (Herrich-Schäffer) (Fig. 1) was previously reported in Louisiana by Chapin & Callahan (1967) from Prairieville, Ascension Parish in July. This species reportedly occurs across the entire United States and much of lower Canada. There is very little variation in phenotype appearances among the Louisiana populations sampled in this study. Though as one travels northward in the U.S., those populations often have significant dark markings on the wings. This species appeared on previous checklists (Hodges, 1983), in North America as ***Simyra henrici*** (Grote, 1873). Lafontaine and Schmidt (2010) noted ***henrici*** was synonymized by Becker (2002). Covell (1984) reported ***insularis*** occurs *"throughout our area in marshes (Eastern North America), April through August, two or more broods"*. Heppner (2003) reported the range of ***insularis*** to include Quebec to Florida, west to Manitoba and California, West Indies, and Mexico. Heppner reported adults during the months of February to April, June, August, October and November, and hostplants to include: ***Carex*** *species,* ***Polygonum*** *species,* ***Populus*** *species,* ***Salix*** *species*, and ***Typha*** *species.* Powell and Opler (2009) reported ***insularis*** to occur from southeastern Oregon, south to western Texas and southern California, east to Nova Scotia and Maine, and on the wing March to October, likely in several broods. In Louisiana, ***insularis*** appears to have at least three significantly populated annual broods initially appearing in the summer months, May-June, continuing into October (Fig. 2). The parish records are illustrated in Fig. 3. I make note, that in no way is ***insularis*** confined to marsh environments. I thank Charles M. Allen for providing the Vernon Parish records.

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Powell, J.A. and **P.A. Opler,** 2009. *Moths of Western North America*, Univ. Calif. Press xiii + 369 pp + 64 plates.

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NOMINATIONS SOUGHT FOR FIVE SLS OFFICES

BY

JOHN F. DOUGLASS

The Society's biennial election will be held on September 23 at the joint ATL-SLS Annual Meeting in Gainesville. Openings will include Member-at-Large (3 positions) and the offices of Chairman and Secretary of the Society.

Members are invited and encouraged to nominate themselves or other persons interested in running for these posts. Please submit the names of potential candidates to Nominating Committee chairman James K. Adams (jadams@daltonstate.edu, Tel. [(706) 602-6993] by June 1, 2017. A simple statement is needed from each candidate, indicating that he/she is willing to run if nominated, and to serve if elected.

The Society also invites nominations for the John Abbot Award, an honor bestowed in occasional years upon individuals who have made outstanding contributions to lepidopterology and to the goals of the Society. The present ballot lists Deborah L. Matthews and Harry Pavulaan; a third potential recipient will be added before a vote is scheduled.

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GIVIRA ANNA (DYAR, 1898) (LEPIDOPTERA: COSSIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

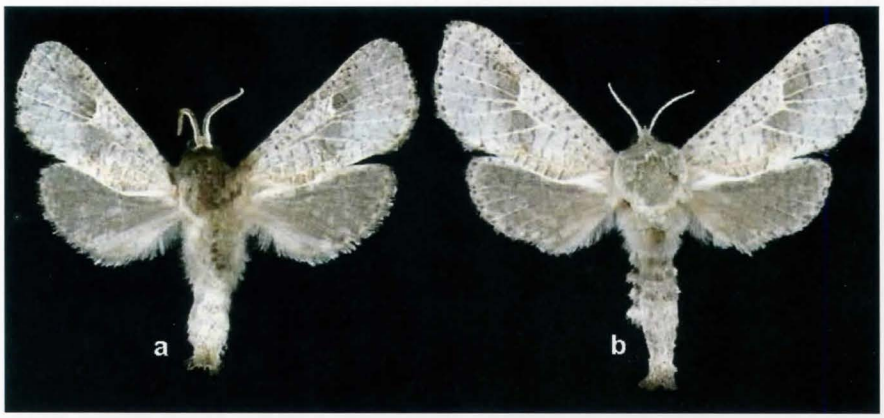

Fig. 1. ***Givira anna*** phenotypes: a. male, b. female.

The small lilacine-gray colored cossid moth ***Givira anna*** (Dyar) (Fig. 1) is quite common where I have recorded taking adults across Louisiana. This species is fairly abundant in mercury vapor light trap samples, occurring from the end of March through mid-September (Fig. 2). The population of adults is most abundant peaking at the end of June, beginning of July within Louisiana. Though, it appears there are three annual broods at approximately 46-day intervals.

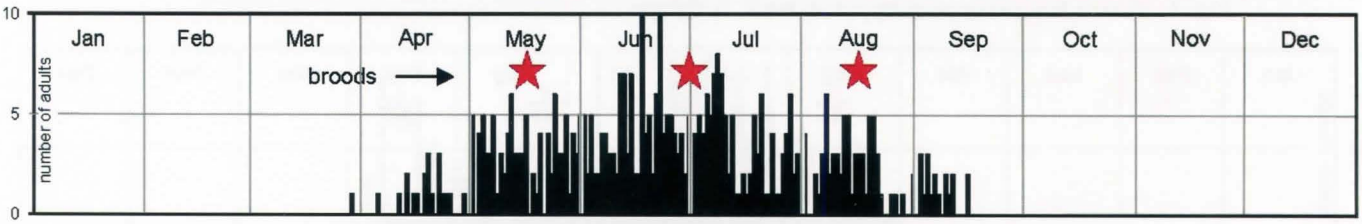

Fig. 2. Adult ***Givira anna*** captured in Louisiana. n = 446

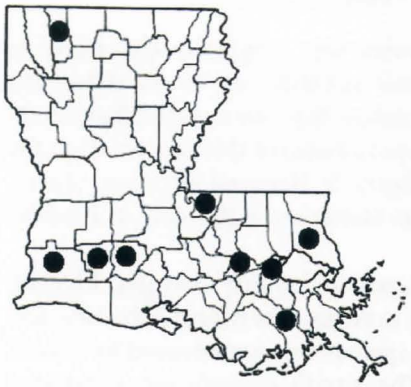

Fig. 3. Parish records for ***G. anna***.

This species was originally described as ***Hypota anna*** by Dyar in 1898. In their revision of North American Cossidae, Barnes and McDunnough (1911) made note that the proximal halves of the forewings are noticeably whiter in color, than the distal portion. These same authors stated ***anna*** was known only from the state of Florida. Later, Grossbeck (1917) also reported ***anna*** as occurring in the state of Florida.

Covell (1984) stated the range of ***anna*** to include New Jersey to Florida, west to Missouri and Arkansas, in the months of May through August, and that the larvae bore into Pine trunks. Heppner (2003) stated the range of ***anna*** includes New Jersey to Florida and Arkansas to Texas, adults occurring March through August, and (larval) host plants are ***Pinus*** species. ***G. anna*** was not covered by Powell and Opler (2009). The Louisiana parish records are illustrated in Fig. 3.

Literature cited

Barnes,W. and J.H. McDunnough, 1911. *Revision of the Cossidae of North America. Contributions to the Natural History of the Lepidoprtera of North America* Vol. I No. I. The Review Press, Decatur, Ill.

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Powell, J.A. and P.A. Opler, 2009. Moths of Western North America, Univ. Calif. Press xiii + 369 pp + 64 plates.

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GIVIRA FRANCESCA (DYAR, 1909) (LEPIDOPTERA: COSSIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

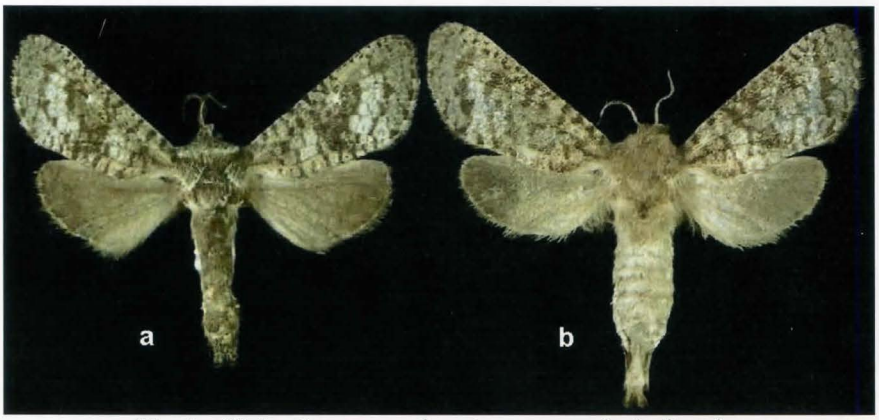

Fig. 1. ***Givira francesca*** phenotypes: a. male, b. female.

The very small gray-blue colored cossid moth ***Givira francesca*** (Dyar) (Fig. 1) is quite common where I have recorded taking adults in Louisiana. This species is fairly abundant in mercury vapor light trap samples occurring within the state from April into October (Fig. 2). It appears ***francesca*** has four annual broods at approximately 40-day intervals occurring over six to seven months in Louisiana (Fig. 2). Most adults were recorded on the wing in late June, than any other time during the year. This species was originally described as ***Hypopta francesca*** Dyar in 1909. In their revision of North American Cossidae, Barnes and McDunnough (1911) stated they had not seen ***francesca***, but mentioned the existence of two specimens (adults) of this species from the state of Florida, and the Type No. 12213 in the U. S. National Museum. Later, Grossbeck (1917) also reported ***francesca*** as occurring in the state of Florida.

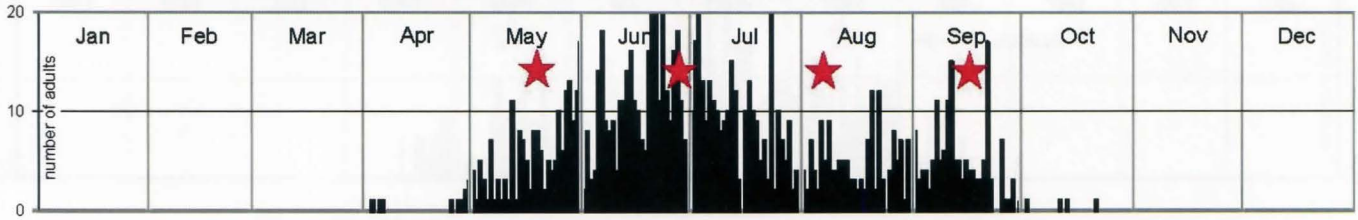

Fig. 2. Adult ***Givira francesca*** captured in Louisiana. n = 1121

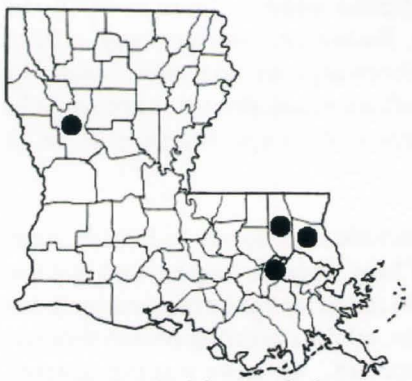

Fig. 3. Parish records for ***G. francesca***.

Heppner (2003) stated the range of ***francesca*** to include Georgia, Florida, Alabama and Mississippi, (adults) occurring in all months except February, and (larval) host plants are ***Pinus*** species. This species was not covered by Covell (1984), nor Powell and Opler (2009). The parish records are illustrated in Fig. 3.

Literature cited

Barnes,W. and **J.H.McDunnough,** 1911. *Revision of the Cossidae of North America. Contributions to the Natural History of the Lepidoprtera of North America* Vol. I No. I. The Review Press, Decatur, Ill.

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Powell, J.A. and **P.A. Opler,** 2009. *Moths of Western North America*, Univ. Calif. Press xiii + 369 pp + 64 plates.

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INGUROMORPHA BASALIS (WALKER, 1856) (LEPIDOPTERA: COSSIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

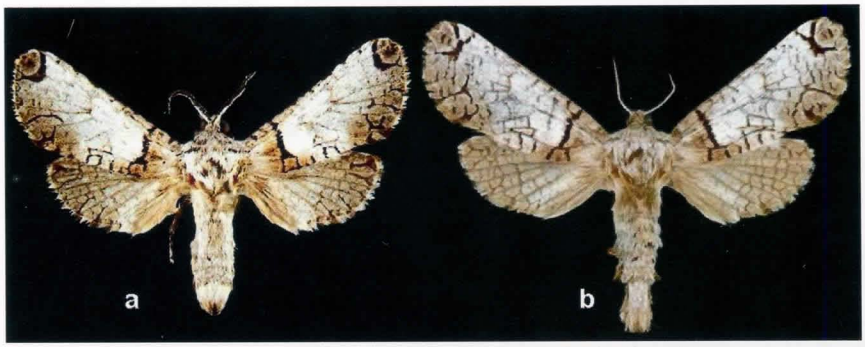

Fig. 1. ***Inguromorpha basalis*:** a. male, b. female.

The medium-size cossid moth ***Inguromorpha basalis***(Walker) (Fig. 1) was originally described as ***Cossus basalis*** Walker in 1856. This species was known only to occur in the state of Florida when Barnes and McDunnough published their revision of the family Cossidae in 1911. Covell (1984) stated the range of ***basalis*** includes New Jersey to Florida, west to Missouri and Arkansas, and adults occurring in the

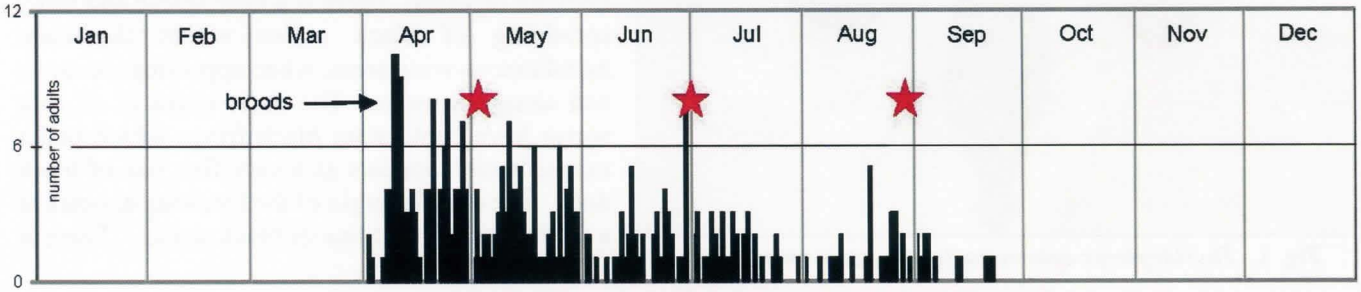

Fig. 2. Adult ***I. basalis*** captured at **Abita Entomological Study Site*. n = 327

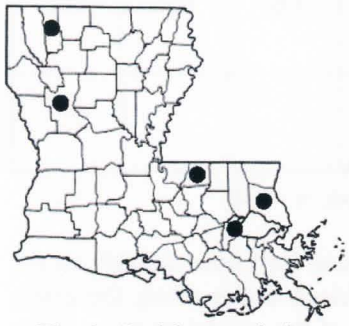

Fig. 3. Parish records for ***I. basalis***.

months of May through August, common southward. This same author provided no information concerning food plants or details concerning phenology.

Heppner (2003) stated the range of ***basalis*** includes New Jersey to Florida and Arkansas to Texas, with adults in the months of March through June, and November. No known food/host plant hosts were listed by this author as well. Within southeast Louisiana it appears that ***basalis*** has three annual broods, adults on the wing early April through September (Fig. 2). Powell and Opler (2009) did not cover this species. ***I. basalis*** is fairly common in the five parishes across Louisiana where it has been captured using mercury vapor light traps (Fig. 3).

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

Literature cited

Barnes, W. and J.H. McDunnough, 1911. *Revision of the Cossidae of North America. Contributions to the Natural History of theLepidoprtera of North America* Vol. I No. I. The Review Press, Decatur, Ill.

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Powell, J.A. and P.A. Opler, 2009. *Moths of Western North America*, Univ. Calif. Press xiii + 369 pp + 64 plates.

Walker, F., Cat. Lep. Het. Brit. Mus. (1856) Cossus basalis.

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THYRIDOPTERYX EPHEMERAEFORMIS (HAWORTH, 1803) (LEPIDOPTERA: PSYCHIDAE) IN LOUISIANA

BY

VERNON ANTOINE BROU JR.

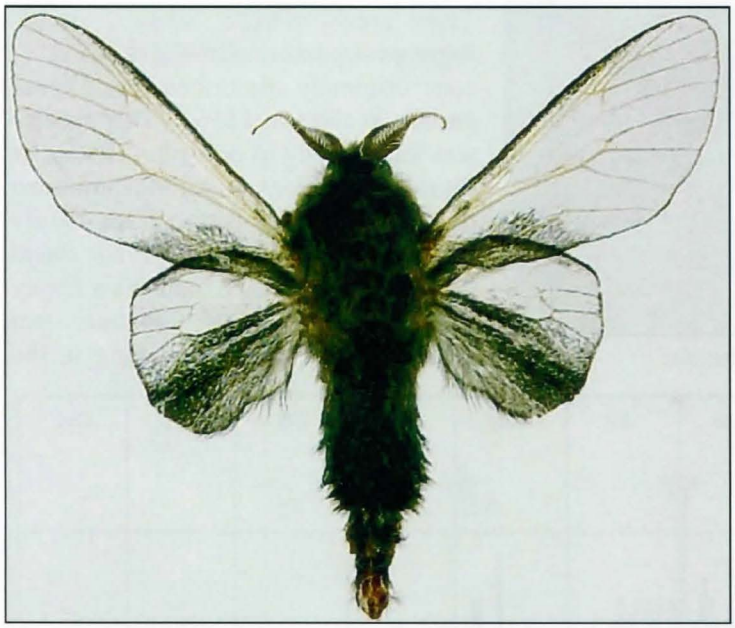

Fig. 1. ***Thyridopteryx ephemeraeformis***, male phenotype.

The bagworm moth ***Thyridopteryx ephemeraeformis*** (Haworth) (Fig. 1) is a fairly common species in Louisiana. There are no appreciable variations in appearance of the adult males. The antennae is black and bipectinate, broad at base, narrowing rapidly at midpoint, approaching terminal end. The dorsal head, thorax and abdomen are also black (fuscous) in color, and to some viewers, considered fuzzy. The forewings and hindwings are mostly scaleless, appearing as transparent, clear membranes intersected by a network of veins. There is a very sparse and fluky sprinkling of black scales within the clear membranous wing areas, when appearing, occur at, and along the veins. The outer edges of all four wings have contrasting black fringe which under magnification appears as a very fine line of black dots. The costal margin of the forewing appears as a distinct and robust line of black scales. There is

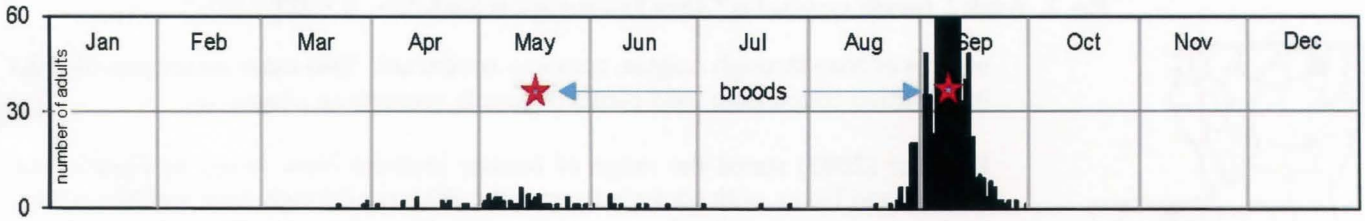

Fig. 2. Adult ***Thyridopteryx ephemeraeformis*** males captured in Louisiana. n = 966

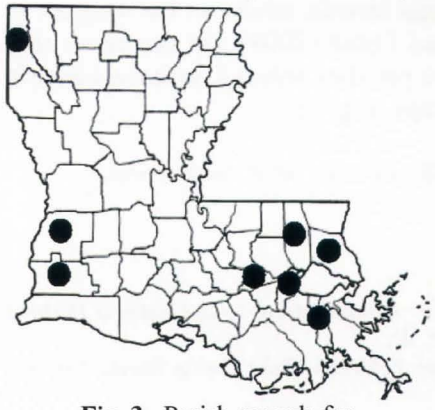

Fig. 3. Parish records for ***Thyridopteryx ephemeraeformis.***

a diffuse patch of black scales along the basal half inner margin on the forewings, and similarly, a distinct patch of black scales along the entire costal margin of the hindwings. About half of the caudal portion of the hindwing, that portion below the discal cell and continuing to a midpoint of the outer margin, including the areas adjacent to the anal angle and inner margin, is minimally covered with black scales. The anterior portion of the hindwing is mostly unscaled, except for a distinct band of black scales along the costal margin.

This species has two well separated annual broods, the first sparsely populated brood emerging over a period of over three months, peaking around mid-May and the second peaking the second week of September (Fig. 2). The initial brood accounts for about eight percent of the total population sample reported in this study. There was no alteration in any manner, in the sampling over nearly a half century of continual, non-stop, year-round operating a series of stationary light traps utilizing mercury vapor blacklights, reflector sunlamps, fluorescent blacklights, and fluorescent blacklight blue lamps, that would account for the differences in quantities of adult males captured during months of May versus September. The ventral head, thorax, including legs, and abdomen are black or fuscous in color, and unremarkable. This species was illustrated by Davis (1964), and more recently by Covell (1984) who stated the range of this pest species includes Massachusetts to Florida and west to Nebraska and Texas. Females of ***ephemeraeformis*** are wingless, remaining in cocoon covering.

Heppner (2003) addressed two species of the subfamily Oiketicinae. This author listed the range of ***ephemeraeformis*** to include: Massachusetts to Florida, west to Nebraska and Texas, West Indies, and Texas. This same author listed the dates recorded from March - September, and also November. Heppner also provided a large list of at least 180 different recorded host plants: species of trees, shrubs, and others. This species was reported earlier as occurring in the state of Florida by Grossbeck (1917).

Powell and Opler (2009) did not address ***ephemeraeformis*** for western North America, but did list the similar looking species ***Thyridopteryx meadii*** Henry Edwards. Various websites lists ***ephemeraeformis*** as recorded in other far distant countries: Iran, Croatia, and South Africa.

Davis (1964) addressed the bagworm moths of the Western Hemisphere in a remarkable comprehensive preliminary revision of the family Psychidae. This author stated the Type specimen of ***ephemeraeformis*** is lost, and the recorded type locality, Great Britain, is questionable. This author also stated ***ephemeraeformis*** is also known to occur in the Appalachian Highlands as far north as New York ... and westward to Texas and Nebraska, and that this species is the most economically important psychid in North America.

Davis (1975) also reviewed the bagworm **Psychidae** moths of the West Indies, and listed ***ephemeraeformis*** also from the Bahamas, Puerto Rico, and Haiti. Davis (1964) listed specimens of this species from Jefferson Parish and Caddo Parish in Louisiana. The currently documented parish records are illustrated in Fig. 3.

In the recent revised checklist (Pohl et al., 2016) has five species in the genus ***Thyridopteryx*** Stephens, (1835) occurring in Canada, Greenland, and mainland United States.

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Pohl, G.R., Patterson, B., & Pelham, J.P., 2016. *Annotated taxonomic checklist of the Lepidoptera of North America, North of Mexico,* Working paper published online by the authors at ResearchGate.net. 766 pp.

Powell, J.A. and **P.A. Opler,** 2009. *Moths of Western North America,* Univ. Calif. Press xiii + 369 pp + 64 plates.

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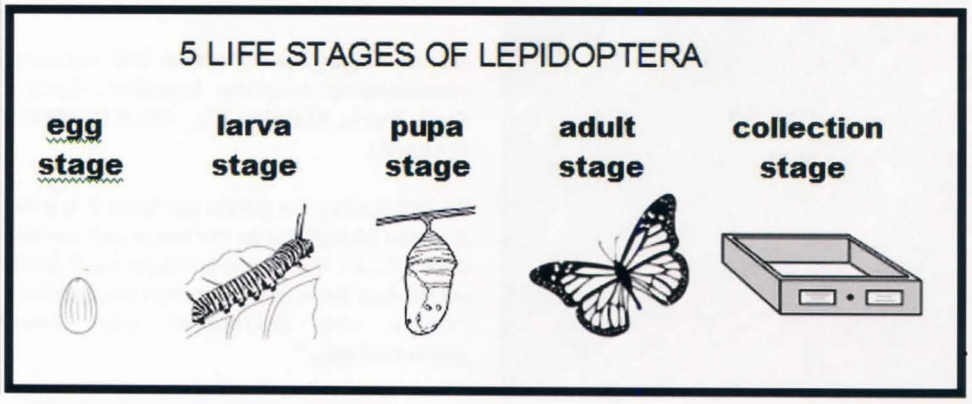


Collectors' Corner - Harry Pavulaan

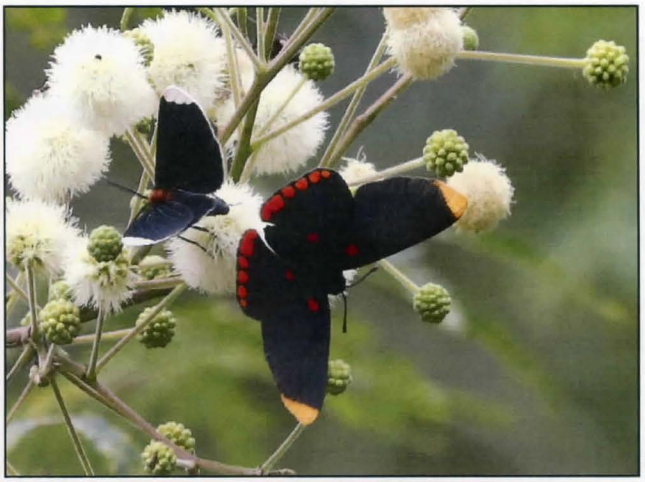
COMPANIONS AND / OR FRIENDS

BY
MIKE RICKARD

Three hundred species of butterflies have been identified in South Texas in the Rio Grande Valley. Two of the locations in this area that are excellent for viewing butterflies are Estero Llano Grande State Park and the National Butterfly Center.

There was a light freeze with very strong wind chill in January (2017) in the Rio Grande Valley and nectar has been scarce. Consequently, there have been many butterflies sharing flowers.

***Asterocampa leilia* and *Biblis hyperia* share a bait log, National Butterfly Center, Hidalgo Co., TX (24-I-2017).**



Metalmark mimic *Melanchroia chephise* and *Melanis pixe* on *Acacia berlandieri*, National Butterfly Center, Hidalgo Co., TX. (28-I-2017).

***Smyrna blomfildia* (bottom left corner) and *Hamadryas guatemalena* roosting together, Estero Llano Grande State Park, Hidalgo Co, (30-XII-2016) (Photo by Mike Rickard).**

By lightening the photo perhaps it is a bit easier to see the *Smyrna blomfildia* in the lower left corner. Mike Rickard states "*...we were on a butterfly walk looking at the cracker which had been there for days and nobody saw* the *Smyrna except one individual who couldn't find the guatemalena...*"

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SPRING FIELD TRIP TO THE FLORIDA PANHANDLE, April 28 - May 1, 2017

BY

JOHN F. DOUGLASS

The Central Panhandle of Florida is one of Earth's most-marvelous locales. Its innumerable turquoise-&-aqua freshwater springs are beautiful beyond description. Blindingly-white sand beaches along the Gulf contrast with swamps of rare primeval beauty in the north. The Apalachicola River winds majestically through vast expanses of mixed forest and wetlands seething with endemic and imperiled life-forms.

Please join your fellow SLS members and interested friends for a weekend of exploration and discovery in this enchanted place. Three days and nights of photography and collecting are planned for April 28-May 1, 2017 (Mother's Day is May 14). Kind permission has been extended to us by local land managers to explore, all day and through the night, the area's flora and lepidopteran fauna. Permits for the taking of voucher specimens are being arranged, and participants are encouraged to bring MV and blacklighting gear (new moon is April 26).

Recreational opportunities abound in the area (**Figs. 1, 2**). The Chipola River is legendary as the site of some of history's latest reported sightings of the Ivory-billed Woodpecker (**Fig. 3**), and detailed canoe-trail maps, showing access points on the Chipola River, are available on-line (https://www.dep.state.fl.us/gwt/guide/designated_paddle/Chipola_guide.pdf).

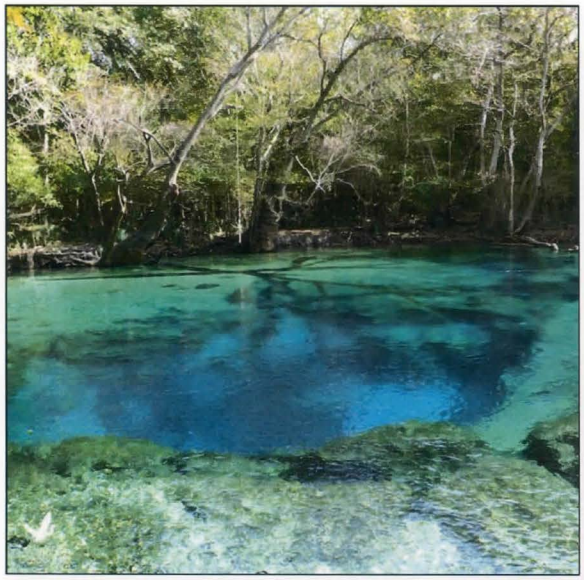

Fig. 1. Cypress Spring, Washington Co., FL.

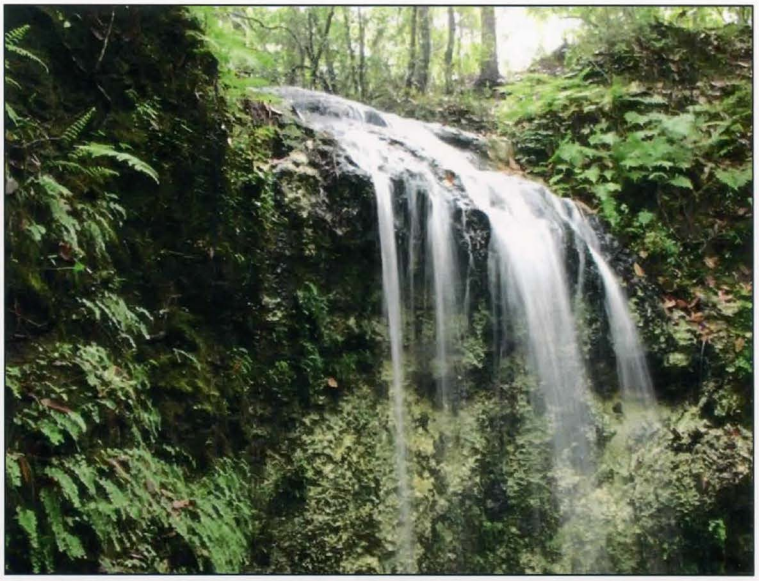

Fig. 2. Falling Waters State Park, Washington Co., FL.

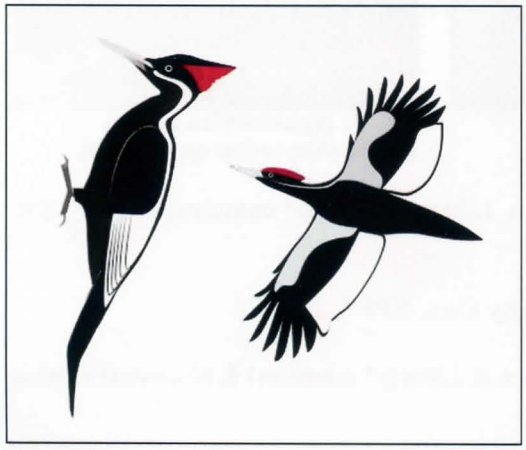

Fig. 3. Ivory-billed Woodpecker.

Butterfly biogeography: Many species of butterflies and moths are expected to be on the wing at the time of our trip. **Based on maps in recent field guides and postings on** www.butterfliesandmoths.org, 11 eastern U.S. butterfly species (below) show striking and as-yet-unexplained north-south gaps in their distribution across the Deep South. Individual records for these species are largely or completely absent from a broad east-west swath covering Middle Georgia and Central Alabama. Of special interest is Florida's Central Panhandle: it harbors the disjunct, southerly-outlying populations of 10 of these species. Asterisks (*) in the list below indicate counties in which each particular species has been reported recently as a breeding resident. Other abbreviations are: CP, **Central Panhandle of Florida**; NPF, **northern parts of peninsular Florida**; SPF, **southern parts of peninsular Florida**.

Butterfly species / Southerly-outlying records

1. **Falcate Orangetip,** *Anthocharis midea* **(Fig. 4)**: CP (Liberty & Wakulla* counties); SW Ala. (incl. Clarke* Co.).

2. **Coral Hairstreak,** *Satyrium titus* **(Fig. 5)**: CP (Liberty, Leon, & Wakulla* counties).

3. **Juniper Hairstreak,** *Callophrys gryneus* **(Fig. 6)**: most of Panhandle* & NPF*.

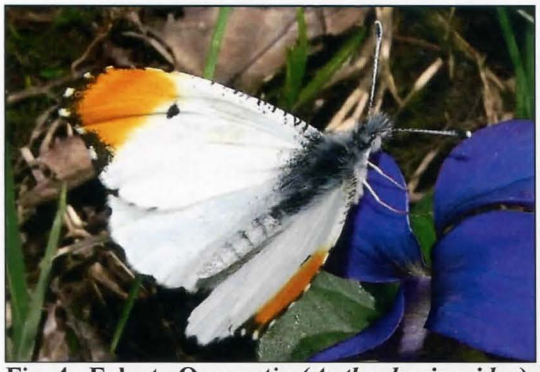

Fig. 4. Falcate Orangetip (*Anthocharis midea*).

Fig. 5. Coral Hairstreak (*Satyrium titus*).

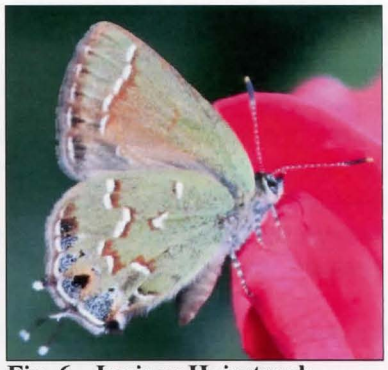

Fig. 6. Juniper Hairstreak (*Callophrys gryneus*).

4. **Brown Elfin,** *Callophrys augustinus* **(Fig. 7)**: CP & W Panhandle (Liberty*, Santa Rosa, & Okaloosa* counties) (Calhoun et al., 1990, *S. Lep. News* 31(2): 41-42); SW Ala. (incl. Monroe* Co.).

5. **Silvery Checkerspot,** *Chlosyne nycteis* **(Fig. 8)**: CP (Jackson* Co.); SW Georgia (Grady* Co.).

6. **Creole Pearly-Eye,** *Lethe (Enodia) creola* (**not shown**): NE Florida (Nassau* Co. fide Calhoun et al., 2015, Abstr.); SW Ala. (Mobile Co.).

7. **Appalachian Brown,** *Lethe (Satyrodes) appalachia* **(Fig. 9)**: CP (Wakulla & Jefferson counties) & NPF*; SE & SW Georgia.

Fig. 7. Brown Elfin (*Callophrys augustinus*).

Fig. 8. Silvery Checkerspot (*Chlosyne nycteis*).

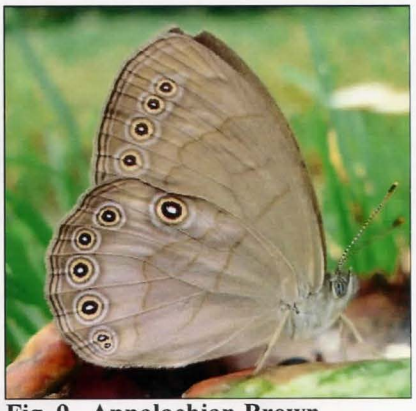

Fig. 9. Appalachian Brown [*Lethe (Satyrodes) appalachia*]

8. **Golden-banded Skipper,** *Autochton cellus* **(Fig. 10)**: CP (Jackson, Liberty, & Leon* counties) & NPF; SW Georgia (Grady Co.).

9. **Hayhurst's Scallopwing,** *Staphylus hayhurstii* **(Fig. 11)**: CP (Liberty Co.), NPF*, & SPF.

10. **Pepper and Salt Skipper,** *Amblyscirtes hegon* **(Fig. 12)**: CP (Jackson & Liberty* counties) & N-central Florida (Suwannee Co.).

11. **Common Roadside-Skipper,** *Amblyscirtes vialis* **(Fig. 13)**: CP & W Panhandle (Liberty, Franklin, Okaloosa*, & Walton* counties).

Fig. 10. Golden-banded Skipper (*Autochton cellus*).

Fig. 11. Hayhurst's Scallopwing (*Staphylus hayhurstii*).

Fig. 12. Pepper and Salt Skipper (*Amblyscirtes hegon*).

Fig. 13. Common Roadside-Skipper (*Amblyscirtes vialis*).

Botany and Lepidopterology: Lovers of butterflies and moths typically harbor an abiding interest in plants. We welcome botanically-minded persons, including members and friends of the FNPS, on our field trips. Botanists' observations are highly-valued during our adventures, both for the ecological contexts they provide and because of the paramount importance of particular larval foodplants in the life histories of Lepidoptera. We are fortunate that, during the planned weekend, we will be joined by one of the South's leading botanists, James R. Burkhalter, Curator of the University of West Florida's herbarium in Pensacola [(850) 476-6177 (evenings); jburkhalter@uwf.edu]. Jim's specialty is the fine-grained documentation of local floras in the Florida Panhandle, and he will offer us indispensable guidance in the field.

Itinerary: Each day, we will carpool and then embark upon our explorations from the lobby of the Fairfield Inn & Suites in Marianna [Tel.: (850) 482-0012]. With the exception of Rock Hill Preserve, detailed maps and directions to our targeted sites are accessible on-line.

Scheduled activities [Please note that all times given are in CDT (Central time).]:

Friday, April 28: 5-6 PM CDT: Register in the lobby of the Fairfield Inn in Marianna. Exploration of surrounding habitats is unstructured.

Saturday, April 29: 8-9 AM: Registration. At **9:00 AM** we will depart from the parking lot at the Fairfield Inn on an all-day trip to two sites east of Marianna: Blue Springs Recreational Area and Apalachee WMA.

Sunday, April 30: 9:00 AM: Depart from parking lot at Fairfield Inn on all-day trip to two sites west of Marianna: Rock Hill Preserve and Falling Waters State Park. Individual exploration of the Upper Chipola River (north & south of Marianna) is encouraged.

Monday, May 1: All day: Return to favorite areas by participants who can stay on.

Site descriptions:

1. Blue Springs Recreational Area [5 mi. E of Marianna] **(Fig. 14)**, 5461 Blue Springs Rd., Marianna, FL 32446; Tel. (850) 482-2114, (850) 718-0437. This is a first-magnitude spring; its average flow rate is 126 cubic feet per second (tens of millions of gallons per day). We have been granted early access to this magnificent location (the site is not open to the general public until late May).

2. Apalachee Wildlife Management Area (Fig. 15), 7611 Butler Rd., Sneads, FL 32460; Tel. (850) 265-3676. This is a sprawling, 7,952-acre complex of habitats lying along the shores of the Chattahoochee River and Lake Seminole, adjoining Georgia. The site includes a diverse mix of wetlands and uplands, including dome swamps, floodplain forests, ponds, marshes, sandhills, flatwoods, mixed hardwood forests, and stands of longleaf pine. Our weekend visit lies outside of Apalachee WMA's scheduled hunting seasons. An overall description of the site can be found at http://floridabirdingtrail.com/trail/trail-sections/panhandle-section/apalachee-wma, and trail maps are available at http://myfwc.com/media/3037755/APALACHEE-map.pdf.

3. Rock Hill Preserve [SE of Chipley], Tel. (850) 643-2756 [Nature Conservancy (TNC) in Bristol, FL]. This sanctuary is fragile and it is not open to the general public. Its 373 acres protect Florida's only known sandstone outcroppings (the 3-million-year-old Citronelle Formation) and an unusual associated flora. More than 80 species

of lichens have been reported at the site, and Rock Hill is the only known Florida locality at which lichens representing the genera *Acarospora* (**Fig. 16**), *Psorula* (**Fig. 17**), *Xanthoparmelia* (**Fig. 18**), and *Pycnothelia* can be seen. Lichenivory is well-known among the larvae of many species of North American moths (families Psychidae, Tineidae, Oecophoridae, Gelechiidae, Crambidae, Geometridae, Erebidae, and Noctuidae), and observations we make at Rock Hill might be especially interesting in this respect. Larval sequestration of lichen-derived compounds, and the associated unpalatability of adult moths to predators, has been the subject of decades of fascinating research.

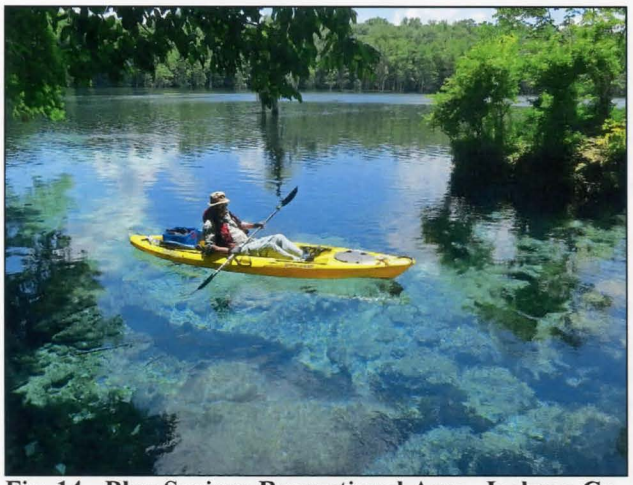

Fig. 14. Blue Springs Recreational Area, Jackson Co., Florida.

Fig. 15. Apalachee Wildlife Management Area, Jackson Co., Florida.

Fig. 16. Soil Paint Lichen (*Acarospora schleicheri*).

Fig. 17. Blue-edged Scale Lichen (*Psorula rufonigra*).

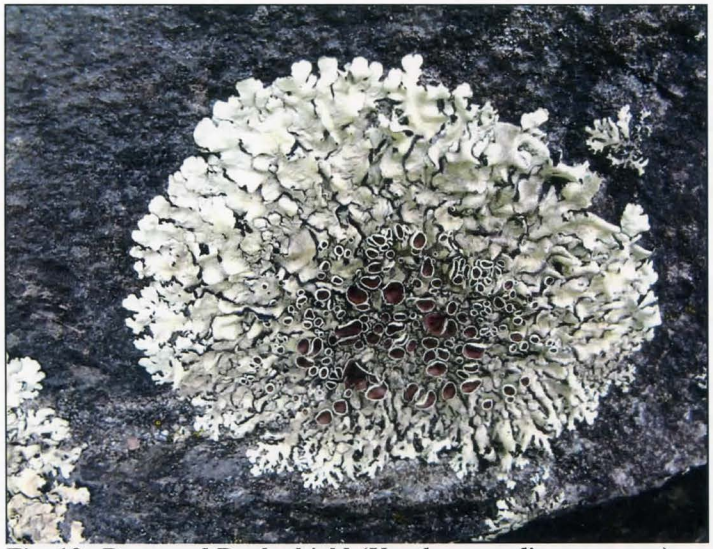

Fig. 18. Peppered Rock-shield (*Xanthoparmelia conspersa*).

The vascular flora of Rock Hill includes several state-listed species of urgent conservation concern. These include the following (known distributions within Florida are indicated for each species):

a) Nuttall's Rayless Goldenrod (*Bigelowia nuttallii*) [FL-Endangered] (Washington & Pinellas counties only) [flowers Sept.-Oct.];

b) Southern Prairie Aster (*Eurybia hemispherica* [= *Aster hemisphericus*]) [FL-Endangered] (**Fig. 19**) (Escambia & Washington counties only) [flowers Aug.-Nov.];

c) Southern Barbara's Buttons (*Marshallia ramosa*) [FL-Endangered] (**Fig. 20**) (Washington & Clay counties only) [flowers May-June];

Fig. 19. Southern Prairie Aster (*Eurybia hemispherica*).

Fig. 20. Southern Barbara's Buttons (*Marshallia ramosa*).

d) Southern Milkweed (*Asclepias viridula*) [FL-Threatened] (endemic to Panhandle & NE Florida) [flowers April-July following fire].

4. Falling Waters State Park [3 mi. S of Chipley] (**Fig. 21**), 1130 State Park Rd., Chipley, FL 32428; Tel. (850) 638-6130. [NOTE partial trail-closure.] Falling Waters Sink is a 100-foot deep, 20-foot-wide limestone shaft into which cascades a 73-foot-high seasonal waterfall, the highest in Florida. Habitats: longleaf pine with wiregrass, hardwood hammock, underground cavern, sinks covered by ferns.

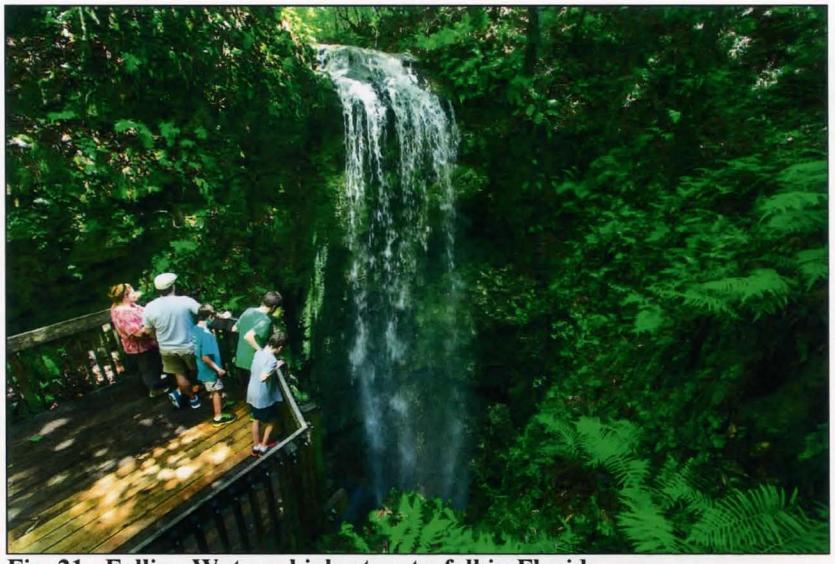

Fig. 21. Falling Waters, highest waterfall in Florida.

Other nearby ecological attractions:

1. Apalachicola Bluffs and Ravines Preserve, 10394 NW Longleaf Drive, Bristol, FL 32321, Tel. (850) 643-2756.
2. Florida Caverns State Park, 3345 Caverns Rd., Marianna, FL 32446; Tel. (850) 482-1228. Located 3 mi. N of Marianna on State Rd. 166.
3. Three Rivers State Park, 7908 Three Rivers Park Rd., Sneads, FL 32460, Tel. (850) 482-9006.
4. Torreya State Park [13 mi. N of Bristol], 2576 NW Torreya Park Rd., Bristol, FL 32321, Tel. (850) 643-2674. Located on the Apalachicola River N of State Rd. 12.
5. Upper Chipola River Water Management Area, c/o Northwest Florida Water Mgmt. District, Havana, FL 32333, Tel. (850) 539-5999.
6. North Florida Wildflower Festival, Blountstown [30 mi. SE of Marianna], Saturday morning, April 29.

Motels in Marianna, Florida (area code **850**): America's Best Value Inn, 526-5666; Comfort Inn & Suites, 482-7112; Days Inn Marianna, 526-1006; Econo Lodge Inn & Suites, 526-0096; Executive Inn, 526-3710; Fairfield Inn & Suites, 482-0012; Hinson House Bed & Breakfast, 526-1500; Marianna Inn & Suites, 526-2900; Microtel Inn & Suites, 526-5005; Quality Inn, 526-5600; Super 8 Marianna, 482-4770.

Camping is available at local state parks (Florida Caverns, Falling Waters, Torreya, & Three Rivers) and is widely permitted on Northwest Florida Water Management District lands (some campsites can be reserved on-line at www.nwfwmd.state.fl.us).

Contact: If you are able to participate in any or all of the weekend's events, please contact the Coordinator, John Douglass (jfdouglass7@gmail.com; (419) 450-7245 [24 hrs.]). Our explorations promise to be exciting and fun! Updates concerning last-minute details or schedule changes will be communicated directly to participants via e-mail.

Photo credits: **Figure 1**, Lori Ceier/Walton Outdoors; **2**, www.tidewater-florida.com; **3**, en.wikipedia.org; **4**, Kenneth Dwain Harrelson; **5**, Kenneth J. Childs; **6**, Thom Mitchell; **7**, Anthony W. Thomas; **8**, M. J. Hatfield; **9**, Jason D. Roberts; **10**, Doug Taron; **11**, Stephen W. Johnson; **12**, Wanda Smith; **13**, Mary Ann P. Friedman; **14**, Dave C. Hawkfish; **15**, Great Florida Birding Trail; **16**, Stephen Sharnoff; **17**, Mark Rahill; **18**, Ralf Wagner; **19**, Byron Jorjorian (www.byronjorjorian.com); **20**, Alan Cressler; **21**, Colin Hackley/VISIT FLORIDA.

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REPORTS OF STATE COORDINATORS

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

Vitaly Charny sends in this list of butterflies documented in Cane Creek Canyon Preserve for the years 2010-2016. The Cane Creek Canyon is located in Cleburne Co., Alabama, and is a private preserve owned by Jim and Faye Lacefields who are both scientists and educators. Butterfly collecting is not allowed at the preserve.

Epargyreus clarus	Silver-spotted Skipper	*Amblyscirtes hegon*	Pepper and Salt Skipper
Urbanus proteus	Long-tailed Skipper	*Amblyscirtes aesculapius*	Lace-winged Roadside-Skipper
Autochton cellus	Golden Banded-Skipper	*Amblyscirtes belli*	Bell's Roadside-Skipper
Achalarus lyciades	Hoary Edge	*Battus philenor*	Pipe-vine Swallowtail
Thorybes bathyllus	Southern Cloudywing	*Eurytides marcellus*	Zebra Swallowtail
Thorybes pylades	Northern Cloudywing	*Papilio polyxenes*	Black Swallowtail
Thorybes confusis	Confused Cloudywing	*Papilio glaucus*	Tiger Swallowtail
Erynnis brizo	Sleepy Duskywing	*Papilio troilus*	Spicebush Swallowtail
Erynnis juvenalis	Juvenal's Duskywing	*Pontia protodice*	Checkered White
Erynnis horatius	Horace's Duskywing	*Pieris rapae*	Cabbage Butterfly
Erynnis zarucco	Zarucco Duskywing	*Anthocharis midea*	Falcate Orangetip
Erynnis baptisiae	Wild Indigo Duskywing	*Colias philodice*	Clouded Sulphur
Pyrgus communis	Common Checkered-Skipper	*Colias eurytheme*	Orange Sulphur
Pholisora catullus	Common Sootywing	*Zerene cesonia*	Southern Dogface
Nastra iherminier	Swarthy Skipper	*Phoebis sennae*	Cloudless Sulphur
Lerema accius	Clouded Skipper	*Pyrisitia lisa*	Little Yellow
Ancyloxypha numitor	Least Skipper	*Abaeis nicippe*	Sleepy Orange
Hylephila phyleus	Fiery Skipper	*Nathalis iole*	Dainty Sulphur
Atalopedes campestris	Sachem	*Feniseca tarquinius*	Harvester
Polites themistocles	Tawny-edged Skipper	*Callophrys grineus*	Juniper Hairstreak
Polites origenes	Crossline Skipper	*Callophrys augustinus*	Brown Elfin
Polites vibex	Whirlabout	*Callophrys henrici*	Henry's Elfin
Wallengrenia otho	Southern Broken-dash	*Callophrys niphon*	Eastern Pine Elfin
Wallengrenia egeremet	Northern Broken-dash	*Satyrium titus*	Coral Hairstreak
Pompeius verna	Little Glassywing	*Satyrium calanus*	Banded Hairstreak
Anatrytone logan	Delaware Skipper	*Satyrium liparops*	Striped Hairstreák
Poanes hobomok	Hobomok Skipper	*Calycopis cecrops*	Red-banded Hairstreak
Poanes zabulon	Zabulon Skipper	*Strymon melinus*	Gray Hairstreak
Poanes yehl	Yehl Skipper	*Cupido comyntas*	Eastern Tailed-Blue
Euphyes dion	Dion Skipper	*Celastrina ladon*	Spring Azure
Euphyes vestris	Dun Skipper	*Celastrina neglecta*	Summer Azure

Calephelis muticum	Swamp Metalmark	*Vanessa virginiensis*	American Lady
Libytheana carinenta	American Snout	*Limenitis arthemis astyanax*	Red-spotted Purple
Danaus plexippus	Monarch	*Limenitis archippus*	Viceroy
Agraulis vanillae	Gulf Fritillary	*Anaea andria*	Goatweed Leafwing
Euptoieta claudia	Variegated Fritillary	*Asterocampa celtis*	Hackberry Butterfly
Speyeria cybele	Great Spangled Fritillary	*Asterocampa clyton*	Tawny Emperor
Chlosyne nycteis	Silvery Checkerspot	*Enodia portlandia*	Southern Pearly-eye
Phyciodes tharos	Pearl Crescent	*Enodia anthedon*	Northern Pearly-eye
Junonia coenia	Common Buckeye	*Enodia creola*	Creole Pearly-eye
Polygonia interrogationis	Question Mark	*Satyrodes appalachia*	Appalachian Brown
Polygonia comma	Eastern Comma	*Cyllopsis gemma*	Gemmed Satyr
Nymphalis antiopa	Mourning Cloak	*Hermeuptychia sosybius*	Carolina Satyr
Vanessa atalanta	Red Admiral	*Megisto cymela*	Little Wood Satyr
Vanessa cardui	Painted Lady	*Cercyonis pegala*	Common Wood-Nymph

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 report.

Butterfly observations for Gainesville, Alachua County, FL, from Nov. 22, 2016 to Jan. 31, 2017 recorded by Charles V. Covell Jr.:

Agraulus vanillae, Nov. 22, 23, 25, 30, Dec. 14, 17
Danaus plexippus, Nov. 22, 23, 25, 30, Dec. 4, 5, 7, 14, 24, 26, Jan 13
Leptotes cassius, Nov. 23, 27, Dec. 4, 5, 7, 14, 15, 16, 19, 23, 26, 28, Jan. 1, 2, 3, 6
Urbanus proteus, Nov. 25, Dec. 23
Phoebis sennae, Nov. 25, 30, Dec. 2, 4, 7, 14, 17, 19, 24, 29, Jan 3, 16
Abaeis nicippe, Nov. 25, Dec. 7
Hemiargus ceraunus, Nov. 25,
Heliconius charithonia, Nov. 27, Dec. 5, 7, 14, 16, 19, 23, 26, 28, Jan. 1, 5, 20, 23, 24
Anartia jatrophae, Nov. 30, Dec. 24
Urbanus dorantes, Nov. 30, Dec. 7, 23
Hylephila phyleus, Nov. 30, Jan. 17, 23
Junonia coenia, Dec. 7, 14
Panoquina ocola, Dec. 7, Jan. 23, 24
Pyrisitia lisa, Dec. 17, 24
Vanessa atalanta, Dec. 17, Jan. 18
Danaus gilippus, Dec. 17
Phoebis philea, Dec. 24, 28
Papilio glaucus, Jan. 16
Asbolis capucinus, Jan. 20

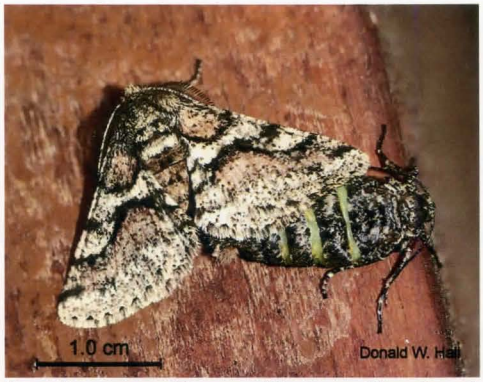
Moths: *Eusarca fundaria*, (Geometridae), Dec. 28

[Also, I successfully reared *Scopula timandrata* (Geometridae) on clover.]

Butterflies in our yard (Charlie's) at 207 NE 9th Ave., Gainesville, FL, 2016 with first dates of sighting:

1. *Heliconius charithonia* — Jan. 28, several flying in back yard
2. *Phoebis sennae* — Feb. 23, seen at 3rd St. driveway entrance
3. *Papilio glaucus* — Mar. 24, flying over the front yard
4. *Atlides halesus* — Mar. 30, flying among Viburnum blossoms
5. *Libytheana carinenta* — Mar. 31, 2–3 flying in holly tree & perching

6. *Parhassius m-album*	Apr. 3, perched in Viburnum tree, up high
7. *Junonia coenia*	Apr. 10, sitting on back lawn
8. *Leptotes cassius*	Apr. 10, flying around back of house
9. *Phoebis philea*	Apr. 18, flying at end of our driveway
10. *Calycopis cecrops*	Apr. 24, resting on our pergola
11. *Agraulis vanillae*	Apr. 24, lying in back yard
12. *Danaus plexippus*	Apr. 30, flying in front yard
13. *Erynnis horatius*	May 6, on Lantana in our back yard
14. *Heraclides cresphontes*	May 12, flying in our back yard
15. *Papilio troilus*	May 22, flying in our back yard
16. *Urbanus proteus*	Sept. 7, 2 at Porterweed blossoms
17. *Asbolis capucinus*	Sept. 18, perched on a bush
18. *Pyrisitia lisa*	Oct. 11 in back yard on ground
19. *Papilio palamedes*	Oct. 16, flying in back yard



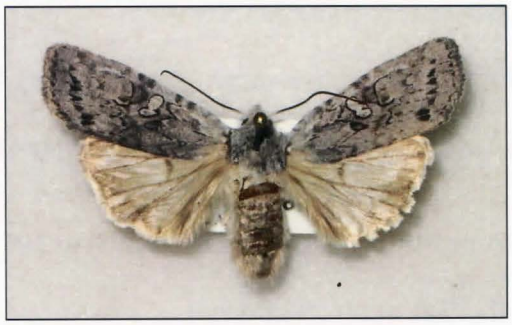
***Lycia ypsilon* (S.A. Forbes) mating) (February 21, 2017, Gainesville, Florida) (Photo by Don Hall).**

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

James sends in the following report:

The contributors include James Adams (JKA or nonotation), Brian Scholtens (BS), John Hyatt (JH) and Lance Durden (LD). Others are indicated with their 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 COUNTYx records are indicated, and all dates listed below are 2017 unlessx otherwise specified.

***Siederia walshella* (Kyhl Austin)**



Litholphane laceyi

Carbondale, I-75 exit 326, Whitfield Co.:
NOCTUIDAE: *Feralia major*, Jan.3 and 18 (4).

Calhoun, Gordon Co. (my house):
GEOMETRIDAE: *Cladara limitaria*, Feb. 23. **NOLIDAE**: *Nycteola metaspilella*, Jan. 29.

Amicalola Falls State Park, Dawson Co., Mar. 6, Kyhl Austin:
PSYCHIDAE: *Siederia walshella* (STATE).

Statesboro, Bulloch Co., LD:
GEOMETRIDAE: *Leptostales crossii*, Jan. 20 (COUNTY). **NOCTUIDAE**: *Lithophane laceyi*, Jan. 17 (COUNTY; second in STATE).

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

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

Steve send in the following report for North Carolina:

The following selected butterfly records were submitted by Harry LeGrand. All are from the fall, from September through November, with no new records submitted for the winter. Names in parentheses are counties.

Fall 2016 over most of the state was quite warm, sunny, and dry. Temperatures were much above normal, leading to earlier than usual second broods for species, especially *Hesperia* skippers. Rainfall was much below normal in the western half of the state, leading to drought conditions by late fall. However, the Coastal Plain and eastern Piedmont were hit by heavy rains in September and early October from several tropical storms and Hurricane Matthew. Thus, butterfly populations in the Coastal Plain, especially for wetland skippers, could be greatly impacted; results might be noticeable by the middle of next year. The generally excellent conditions for butterfly-watching yielded a number of notable sightings, though once again southern strays were rare. The state saw good flights of *Pyrisitia lisa* and *Agraulis vanillae*, but there were only seven reports of *Vanessa cardui* all season.

PAPILIONIDAE:

Papilio cresphontes, this species strays to the middle 75% of the state from time to time, and one was notable in Loretta Lutman's yard in Asheboro (Randolph) **(COUNTY)** on September 14. One in Hendersonville (Henderson) **(COUNTY)**, photographed by Tom Cameron on September 12, was a rare mountain find.

PIERIDAE:

Pontia protodice, the only reports for the season were of one seen by Kevin Metcalf west of Charlotte (Mecklenburg) on October 3, two seen by Bill McLarney in his garden in northern Macon County on October 25, and another seen by Teddy Wilcox in Watauga County on October 30. This is perhaps more records than in the past few seasonal periods, but nonetheless the scarcity of recent records is disturbing, especially as no consistent (resident?) sites have been located in many years.

Pyrisitia lisa, among the large number of sightings was an excellent upper Piedmont tally of 40 in Caldwell County on September 17, as noted by Teddy Wilcox.

Nathalis iole, the first state record for this stray in several years was one seen by Kevin Metcalf at Latta Plantation Nature Preserve (Mecklenburg) on September 19. Tropical Storm Julia passed along the Southeastern coast a few days earlier, possibly leading to this record.

LYCAENIDAE:

Lycaena phlaeus, this species seems to be declining, and recent reports have become somewhat scarce. A good count was seven noted by Gene Schepker and Sven Halling on Pond Mountain (Ashe) on September 15.

Parrhasius m-album, there was a surprising number of records this fall, though as usual all were of single individuals. Tying the state's late date was a worn one seen by Gene Schepker in Winston-Salem (Forsyth) on October 26.

NYMPHALIDAE:

Boloria bellona, though often common in mountain meadows, a single-party tally of 74 at Pond Mountain (Ashe), by Gene Schepker and Sven Halling on September 15, was quite notable.

Nymphalis antiopa, though not a rare species, relatively few individuals appear out of aestivation in the fall, especially in warm ones such as this year. This may have been the reason for just a single report all season – one seen by Sven Halling at Pilot Mountain State Park (Surry) on October 17.

Vanessa cardui, one seen by Jason Love on November 18 at the Coweeta Hydrologic Laboratory (Macon) was remarkably late for a mountain site.

Lethe portlandia, always a good find in the mountains, one was seen by Jason Love at the Tessentee Bottomland Preserve (Macon) on September 27. Teddy Wilcox had significant records of two on September 3 and one on September 17 at a private farm in Caldwell **(COUNTY).**

Cyllopsis gemma, one was photographed by Teddy Wilcox on September 11 at Boone (Watauga) **(COUNTY);** the species is seldom found at such a high elevation (around 3400 feet).

HESPERIIDAE:

Urbanus dorantes, the second state record of this stray in 2016 was made by Derb Carter, who saw one near Jordan Lake (Chatham) **(COUNTY)** on September 18. It may have been brought northward by Tropical Storm Julia.

Pyrgus communis, this was one of the few skippers present in much above normal numbers this season. Though the species is presumed to be mainly sedentary in the state, some of the numbers might have been of migrants. Doubling the state's previous one-day high count was the remarkable 150 seen by Sven Halling and Gene Schepker near Pfafftown (Forsyth) on October 13.

Hesperia leonardus, this species seems to be declining, especially in the southeastern Piedmont, where again observers came up empty of sightings. Thankfully, Teddy Wilcox found a nice colony of five, documented with photos, at a mountain site in northern Watauga County on September 8.

Hesperia attalus, the only reports were made by Richard Stickney, as usual in the Sandhills Game Land (Scotland); he photographed two on September 5 and an excellent six on September 12.

Hesperia meskei, the species went mysteriously un-reported in October, its primary flight month. However, the fact that there were two reports on the very early dates of September 12 and September 18 suggested to Richard Stickney that the primary brood must have flown about two weeks earlier than usual due to warm weather.

Poanes viator, probably a record Piedmont count total was the 25 seen at a known site along the Cape Fear River (Chatham) by Richard Stickney on the late date of October 2.

Euphyes pilatka, a record late state date of October 16 was of one seen by Brian Bockhahn along the mainland Dare County shoreline.

Euphyes dukesi, John Fussell discovered a new colony site for this very local species, observing six on September 1 and eight on September 7, at Brices Creek. This is another site in Craven County, one of just five counties known for the species in the state.

Lerodea eufala, only the third known record for the mountains was one photographed by Doug Johnston at the Biltmore Estate (Buncombe) **(COUNTY)** on October 20. One seen by Sven Halling at Dinkins Bottoms (Yadkin) **(COUNTY)** on September 25 was notable for the northwestern Piedmont.

Calpodes ethlius, Harry LeGrand had sightings of one on September 29 and two on October 30, at the Raulston Arboretum in Raleigh (Wake); Richard Stickney photographed another there on October 17. In addition, Salman Abdulali saw one in Greenville (Pitt) on October 19.

NOTEWORTHY RECORDS OF TEDDY WILCOX

In late fall 2016, Teddy Wilcox provided LeGrand with dozens of butterfly records from 2009 – 2016 for three counties in the northwestern corner of the state. A number of these are significant enough to be published; those from Fall 2016 are included in the above report. Records from 2016 do not have the year given below.

PAPILIONIDAE:

Papilio cresphontes, he observed singles at West Jefferson (Ashe) on August 10, 2013 and August 5, 2014. The species is believed to be a rare resident along or close to the New River, only a few miles from this town.

LYCAENIDAE:

Satyrium calanus, he had a very good count of 19 individuals along a single road east of Boone (Watauga) on June 19.

Satyrium liparops, this species is rare anywhere in the state, and thus notable was one photographed along the Blue Ridge Parkway (Watauga) **(COUNTY)** on July 4, 2009.

Erora laeta, he found a "colony" site at a mountain in northern Watauga County, where he saw from one to three individuals on five dates from June 21 to July 11, 2009. The three on June 21 is the second highest single-day count for the state.

NYMPHALIDAE:

Lethe creola, one seen on August 13 at a private site in Caldwell County was rare for the foothills of the state.

HESPERIIDAE:

Hesperia leonardus, he photographed one at Bass Lake along the Blue Ridge Parkway (Watauga) on August 28.

Calpodes ethlius, the first mountain record in the state was of one adult he saw in West Jefferson (Ashe) **(COUNTY)** on July 10, 2014.

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

Michael Lockwood states that *Hypocrita escuintla* was very common in Fentress, TX, in 2016. He saw them almost daily from September through the beginning of November at Skydive San Marcos on the Fentress Airpark near the intersection of Highways 20 and 80.

Ed sends in the following report received from Monica Krancevic.

Selected observations Lake Jackson, TX (29.04N, 95.42W), Private Residence - November 18, 2016 - February 19, 2017:

Family	Species	Dates Observed	Comments
Crambidae	*Asciodes gordialis*	11/27/16	
Crambidae	*Desmia subdivisalis*	02/01/17	Early sighting
Crambidae	*Glaphyria sequistrialis*	01/17/17	Early sighting
Crambidae	*Glyphodes sibillalis*	12/16/16	RECORD/Specimen to ECK
Crambidae	*Hyalorista taeniolalis*	11/25/16-01/03/17	Common
Crambidae	*Lineodes fontella*	02/01/17	Early sighting
Crambidae	*Parapoynx diminutalis*	11/22/16-11/29/16; 02/14/17	11/22 *in copula*
Dryadaulidae	*Dryadaula terpsichorella*	01/16/17; 01/25/17	
Erebidae	*Ablemma brimleyana*	12/17/16	Late sighting
Erebidae	*Cisthene unifascia*	02/07/17	Early sighting
Erebidae	*Coxina cinctipalpis*	11/30/17	Uncommon
Erebidae	*Epidromia rotundata*	12/11/16	Worn specimen
Erebidae	*Eublemma cinnamomea*	11/28/16-01/02/17	
Erebidae	*Macrochilo orciferalis*	02/02/17	
Erebidae	*Melipotis fasciolaris*	11/29/16	
Erebidae	*Metallata absumens*	11/07/16; 12/07/16	
Erebidae	*Pareuchaetes insulata*	11/24/16; 01/04/17; 01/25/17	
Erebidae	*Schrankia macula*	02/04/17	
Erebidae	*Simplicia cornicalis*	11/22/16-02/19/17	Sightings 2-3 weeks apart
Euteliidae	*Paectes abrostoloides*	02/02/17	
Gelechiidae	*Chionodes mariona*	01/12/17	Uncommon
Geometridae	*Archirhoe neomexicana*	12/14/16	
Geometridae	*Ceratonyx satanaria*	02/05/17	Uncommon
Geometridae	*Idaea tacturata*	02/02/17-02/20/17	
Geometridae	*Scopula compensata*	01/20/17	Early sighting
Geometridae	*Sphacelodes vulneraria*	11/29/16; 12/17/16; 01/05/17	
Limacodidae	*Phobetron pithecium*	01/21/17	Early sighting
Noctuidae	*Cobubatha orthozona*	11/29/16	
Noctuidae	*Diastema tigris*	11/22/16; 02/05/17; 02/19/17	
Noctuidae	*Elaphria exesa*	02/04/17	
Noctuidae	*Elaphria nucicolora*	11/24/16-02/19/17	Abundant
Noctuidae	*Ozarba catilina*	11/30/16	East of typical range
Nolidae	Afrida ydatodes	11/23/16-02/19/17	Common
Nolidae	*Garella nilotica*	01/31/17; 02/19/17	
Pyralidae	*Ancylostomia stercorea*	12/14/16-12/31/16; 01/22/17	
Pyralidae	*Cacozelia elegans*	11/29/16	Uncommon

Family	Species	Dates Observed	Comments
Pyralidae	*Hypsopygia nostralis*	11/22/16-02/01/17	Sightings every 2 weeks
Pyralidae	*Streptopalpia minusculalis*	11/18/16-01/02/17	Abundant
Tortricidae	*Phalonidia felix*	01/16/17	
Tortricidae	Pseudexentera knudsoni	02/01/17	

Glyphodes sibillalis **(Photo Live) [Crambidae: Spilomelinae], 12/16/2016, Texas State Record.**

Ceratonyx satanaria **(Photo Live) [Geometridae: Ennominae], 02/05/2017, Male.**

Phoebis sennae **("Hiding in Plain Sight", 02/11/2017. Monica states that she has "...a number of yellow to golden leaved plants which are the preferred perching spots for *Phoebis sennae* and renders them almost invisible in the foliage."**

Ed also sends in this report from Stuart Marcus:

Selected observations Liberty, TX (30.097N, 94.765W), Trinity River National Wildlife Refuge, November 4, 2016 - February 07, 2017. All species listed below are new to refuge between these dates.

Family	Species	Dates Observed	Comments
Blastobasidae	*Pigritia murtfeldtella*	01/30/17	ID based on specimen submitted by Ann Hendrickson
Crambidae	*Raphiptera argillaceellus*	11/10/16	
Erebidae	*Eublemma cinnamomea*	11/4/16	
Geometridae	*Macaria transitaria*	11/4/16	
Noctuidae	*Amyna bullula*	11/29/16-12/12/16	
Noctuidae	*Elaphria nucicolora*	11/4/16	
Noctuidae	*Iodopepla u-album*	12/21/16	
Notodontidae	*Heterocampa umbrata*	02/7/17	
Pyralidae	*Caudellia apyrella*	11/4/16	
Uraniidae	*Antiplecta triangularis*	12/13/16-12/22/16	

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

Harry sends in the following winter 2017 report for Virginia:

Butterflies:

Mild winter weather throughout February, with many days topping 60°F, and some days in the 70°F range, brought out many spring butterflies weeks early. Of particular note was a premature winter flight of *Celastrina neglecta*. Unfortunately, winter weather returned to the region by March 1, ending this early flirt with spring.

AB = Allen Belden
DL = David Ledwith
HP = Harry Pavulaan

JS = James Shelton
MA = Mark Adams
SP = Sandra Pavulaan

Pieris rapae – Loudoun Co.: Leesburg, 2/23/17 (HP – 2 observed), 2/24/17 (HP – 1 observed), 3/1/2017 (HP - 1 observed). Powhatan Co.: Powhatan State Park, 2/28/17 (AB - 2 observed).

Colias eurytheme – Fairfax Co.: Oakton, 2/24/2017 (SP - 1 observed); Lorton, 2/25/17 (DL – 1 observed). Loudoun Co.: Leesburg, 3/1/2017 (HP - 1 observed). Powhatan Co.: Powhatan State Park, 2/28/17 (AB - 2 observed).

Colias philodice – Albermarle Co.: west of Charlottesville, 2/19/17 (MA - 1 observed). Powhatan Co.: Powhatan State Park, 2/19/17 (AB - 1 observed), 2/28/17 (AB - 3 observed). Richmond City: James River Park, 2/22/17 (JS - 1 observed).

Celastrina neglecta (spring form/brood early emergence in winter) – Amelia Co.: Amelia WMA, 2/19/17 (JS - 1 observed). Loudoun Co.: Leesburg, 2/7/17 (HP – 1 observed, possible confirmed EARLY date), 2/20/17 (HP – 1 collected), 2/23/17 (HP – 1 collected), 3/1/2017 (HP - 1 observed nectaring on Red Maple blossoms). Powhatan Co.: Powhatan State Park, 2/19/17 (AB - 1 observed), 2/28/17 (AB – 12 observed, photo), a full brood coming out. Richmond City: James River Park, 2/22/17 (JS- 1 observed). [Note: All February reports are certainly *neglecta*, as the species has a tendency to emerge during warm winter spells. *Celastrina ladon*, by contrast, tends to delay emergence throughout Virginia until about April 1, regardless of weeks of earlier warm weather as observed by HP. March reports of *Celastrina* in Virginia are discounted unless personally verified to species by HP.]

Strymon melinus – Loudoun Co., Leesburg (HP). NEW HOST: *Viburnum prunifolium*, (adding to an already impressive list of host families). Larva found on this host in April 2016, at first thought to be a *Celastrina* larva, feeding on flower buds, then on developing fruits. Pupa diapaused through summer, placed into refrigeration in September, taken out of refrigeration Feb. 2017. Eclosed 3/3/17.

Libytheana bachmanni – Loudoun Co.: Leesburg, 2/19/17 (HP – 1 observed, unusually early for this region, possibly overwintered).

Polygonia comma – Albermarle Co.: west of Charlottesville, 2/19/17 (MA - 5 observed). Chesterfield Co.: Dutch Gap Conservation Area, 2/20/17 (JS - 1 observed). Fairfax Co.: Lorton, 2/25/17 (DL – several observed in woodlands). Loudoun Co.: Leesburg, 2/19/17 (HP - 1 observed), 2/20/17 (HP – 3 observed), 2/23/17 (HP – 4 observed), 2/24/17 (HP – 4 observed), 3/1/2017 (HP - 6 observed). Powhatan Co.: Powhatan State Park, 2/19/17 (AB - 1 observed); 2/28/17 (AB - 9 observed). Richmond City (James River Park, 2/22/17 (JS- 1 observed).

Nymphalis antiopa – Albermarle Co.: west of Charlottesville, 2/19/17 (MA - 1 observed). Loudoun Co.: Leesburg, 2/24/17 (HP – 2 observed nectaring on Red Maple blossoms), 2/25/17 (HP – 1 observed), 3/1/2017 (HP - 2 observed nectaring on Red Maple blossoms). Powhatan Co.: Powhatan State Park, 2/28/17 (AB - 1 observed); Powhatan WMA, 2/17/17 (Marcus Gray - 1 observed).

Vanessa atalanta – Loudoun Co.: Leesburg, 2/23/17 (HP - 1 very worn individual observed in woodlands).

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