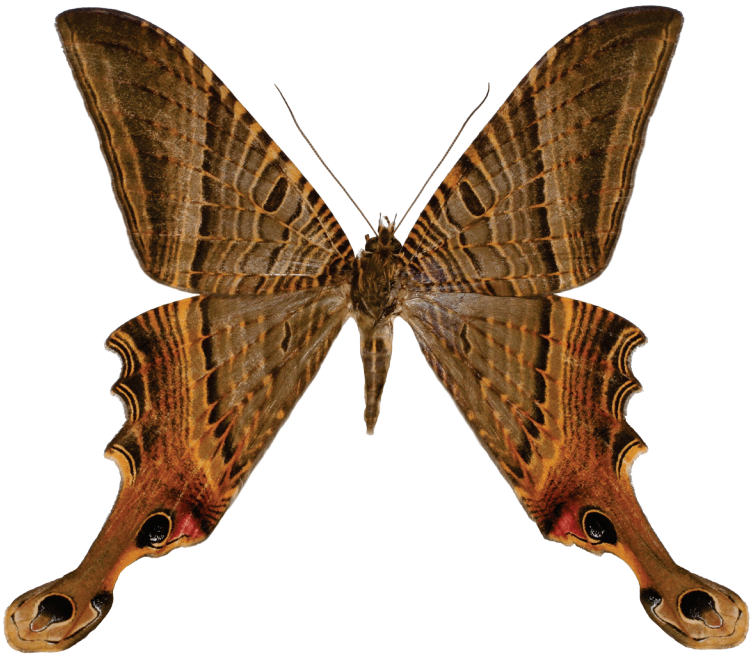
Southern Lepidopterists' Society

and

ASSOCIATION FOR TROPICAL LEPIDOPTERA

2011 Annual Meeting



McGuire Center for Lepidoptera & Biodiversity
Florida Museum of Natural History
University of Florida
14 – 16 October 2011

Front Cover: male *Sematura lunus* (Linnaeus, 1758), Honduras: Atlantida, Pico Bonito Lodge, 1 June 2011. Image by D. Matthews. Border design by Dale Johnson.

FALL MEETING OF THE SOUTHERN LEPIDOPTERISTS' SOCIETY AND THE ASSOCIATION FOR TROPICAL LEPIDOPTERA OCTOBER 14-16, 2011

McGuire Center for Lepidoptera and Biodiversity Conference Room
Florida Museum of Natural History
University of Florida, Gainesville, Florida

Local Arrangements

Meeting Co-Chairs: Jacqueline Y. Miller and Deborah L. Matthews

Meeting Organizing Committee:
Charles V. Covell, Jr., Christine Eliazar, Peter Eliazar, Thomas C. Emmel, Deborah L. Matthews, Jacqueline Y. Miller, Marc Minno, Tom Neal, Brian Scholtens, Jeff Slotten, J. D. Turner, Nancy Turner

Banquet/Lunch:
Tom Neal, Jacqueline Y. Miller, Deborah L. Matthews

Field Trip Coordinators:
Marc Minno, Jeff Slotten, Tom Emmel, Lary Reeves, Charlie Covell

Group Photograph & ATL Photo Contest:
Andrei Sourakov

Collection Access:
Andy Warren & Andrei Sourakov

Program:
Jacqueline Y. Miller, Deborah L. Matthews, Marc Minno

Program Technical Support:
Jim Schlachta, J. Court Whelan

Door Prizes & Evening Program Coordinator :
Charles V. Covell, Jr.

Registration/Meeting Support:
Galileo Encabo, Matthew Standridge, Cassandra Romero, Elena Ortiz, Kristen Rosetti, Katie Lane

Security:
Kurt Auffenburg

and

ASSOCIATION FOR TROPICAL LEPIDOPTERA

Schedule of Events

Friday, October 14

1:00-5:00 p.m.: **Registration,** Lobby, Powell Hall, Florida Museum of Natural History, UF Cultural Plaza, University of Florida.

8:00-4:30 p.m.: **Day field trip**. Yankeetown and Gulf Hammock. Meet at Doyle Conner Building parking lot (1911 SW 34th St., Gainesville). The group will leave promptly at 8:30 am. Contact trip leader Marc Minno (mminno@bellsouth.net) for additional details.

4:30: **Night Collecting**, Kanapaha Botanical Gardens. Check in at front entrance of Powell Hall, Florida Museum of Natural History to coordinate rides, dinner plans etc. You may travel on your own and meet at the gardens just before dark if you notify trip leaders in advance. Night collecting trip leaders: Jeff Slotten (jslotten@bellsouth.net), Charlie Covell (ccovell@flmnh.ufl.edu), and Lary Reeves (lereeves@ufl.edu).

Saturday, October 15

8:00-9:00 a.m.: **Registration** and reception, poster viewing, McGuire Center Conference Room

MORNING SESSION

Moderator: Peter Eliazar

9:00 – 9:10: Opening remarks: Tom Emmel, Brian G. Scholtens, & J. D. Turner.

Southern Lepidopterists Symposium: Nearctic Trails and Tales

9:10 – 9:40: **Andy Warren**
"Life on the Edge: an introduction to the East Coast's only endemic sand dune obligate butterfly, *Atrytonopsis* sp. undescribed 1, the Crystal Skipper (Lepidoptera: Hesperiidae: Hesperiinae)"

9:40 – 10:00: **Jim Hayden**
"*Penestola* and *Sufetula* in Florida"

10:00 – 10:20: **Stephanie D. Stocks**
"A New Emerging Pyralid Pest in the United States: European Pepper Moth (*Duponchelia fovealis*)"

10:20 – 10:40: BREAK

10:40 – 11:00: **Brian Scholtens, John Snyder, Joe Culin & Tom Smith** "Moth Survey of Congaree National Park"

11:00 – 11:20: **Thomas Neal & Jeffrey Slotten**
"Life History Notes on North American *Euerythra* spp. (Erebidae: Arctiinae)"

11:20 – 11:40: **John Calhoun**
"A Year in the Life of a Young Lepidopterist: Theodore L. Mead's journal of 1871"

11:40 – 12:00: **Charles V. Covell, Jr.**
"The Oldham County, Kentucky, July 4th Butterfly Count: An update, with possible evidence of climate change"

12:00 – 12:15: **Group Photo**, McGuire Center outside steps

12:15 – 1:30: Lunch at McGuire Center (courtesy of the Neal family Subway).

AFTERNOON SESSION

Moderator: James K. Adams

ATL Symposium: Discoveries Across the Tropics

1:30 – 1:50: **Deborah L. Matthews & Jacqueline Y. Miller.**
"Lepidoptera associated with *Melanthera* in northern Honduras"

1:50 – 2:10: **Jon D. Turner**
"Raiting, Flaiting, Fleeking and Flenting: Do we need new terminology for mate locating behavior in Lepidoptera?"

2:10 – 2:30: **Elena Ortiz-Acevedo & Keith R. Willmott**
"Molecular Systematics of the Butterfly Tribe Preponini (Nymphalidae: Charaxinae)"

2:30 – 2:50: BREAK

2:50 – 3:10: **Keith R. Willmott, S.P. Mullen & N. Rosser**
"Evolutionary history and the equatorial peak in neotropical butterfly species richness"

3:10 – 3:30: **Maria Checa**
"Effects of season and microhabitat on butterfly communities in a Neotropical dry forest"

3:30 – 3:50: **Lawrence E. Reeves**
"Lepidoptera of Mount Kanlaon National Park, Negros Occidental, Philippines"

3:50 – 4:10: **Akito Kawahara & Daniel Rubinoff**
"An extraordinary radiation of Hawaiian purse-cased *Hyposmocoma* (Lepidoptera: Cosmopterigidae)"

4:10 – 4:30: Announcements by Thomas C. Emmel & short break

4:30 – 5:00: Business Meeting, Southern Lepidopterists' Society

5:00 – 5:30: Board Meeting, Southern Lepidopterists' Society

5:00 – 6:00: Free time on your own before banquet.

EVENING EVENTS

6:00 p.m. **Banquet**, Powell Hall Classroom, Florida Museum of Natural History.

7:00 p.m. **Door prizes and informal presentations** – "Dangers of Lepping and other misadventures". Bring 5-10 images of your favorite adventures to share with the group. Please see Charlie Covell if you have door prizes to donate or would like to participate in the evening presentations.

Sunday, October 3

8:30-9:00: Morning reception, McGuire Center Conference Room

MORNING SESSION

Moderator: Marc Minno

SLS/ATL Conservation Symposium

9:00 – 9:20: **Court Whelan & Thomas C. Emmel**
"Recent reports on the status of the Monarch butterfly (*Danaus plexippus*) overwintering colonies and nearby towns after catastrophic storms and flooding in January of 2010"

9:20 – 9:40: **Marc Minno**
"Update on Listed Species Rules and the Status of Imperiled Butterflies in Southern Florida"

9:40 – 9:50: BREAK

9:50 – 10:20: **James Adams**
"Up, Down, All Around: Trends in the Abundance of Select Georgian Leps"

10:20 – 10:40: **Mirian Hay-Roe**
"Butterfly farming at the Yanesha native community: an effort to mitigate deforestation in the Chanchamayo region, Junin, Peru"

10:40 – 10:50: BREAK

10:50 – 11:50: **Art Shapiro**
"Signal and noise in a Mediterranean climate: What are California butterflies telling us?"

11:50 – 12:00: BREAK

12:00 – 12:30: Business Meeting, Association for Tropical Lepidoptera

12:30: Conclusion of Morning Session

12:30 – 1:00: Board Meeting, Association for Tropical Lepidoptera (Director's Conference Room)

***Idalus herois* Schaus, 1889**

Posters

Please take time to peruse posters on display in the halls outside the McGuire Center conference room. Meeting posters are on panels just outside the conference room (see abstracts).

Abstracts

Adams, James K., Department of Natural Science, Dalton State College, Dalton, GA (jadams@daltonstate.edu).

"Up, Down, All Around: Trends in the Abundance of Select Georgian Leps"

ABSTRACT: Lepidoptera (and other insects) are notorious for having normal large fluctuations in abundance. As such, it takes some significant time to notice trends in abundance outside the normal fluctuations. With nearly 3000 species of Lepidoptera in Georgia in a very diverse array of habitats, it is difficult to follow population trends of a large number of leps. I have chosen several species of butterflies and moths for which there are enough data to indicate consistent numbers, declining numbers, increasing numbers, or if they are periodic in occurrence. You should come with questions in hand about specific species in case I don't talk about your species of interest.

Calhoun, John, 977 Wicks Drive, Palm Harbor, FL 34684 (bretcal1@verizon.net).

"A Year in the Life of a Young Lepidopterist: Theodore L. Mead's journal of 1871"

ABSTRACT: A fortunate series of events led to the discovery of the hitherto unknown 1871 journal of Theodore L. Mead (1852-1936). That year Mead explored Colorado as part of the Wheeler Survey. Mead continued his trip to California and beyond. Twenty taxa were described by W. H. Edwards based on specimens collected during Mead's travels. Mead recorded modes of transportation, arrival and departure times, and mileage between destinations. He mentioned some butterflies by their Latin names and pressed a few plants between the pages. In 1882, Mead and his wife settled in central Florida, where he spent the remainder of his life primarily researching and hybridizing various types of plants.

Checa, María Fernanda, McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, PO Box 112710, Gainesville, FL, USA, 32611-2710 (mfcheca@ufl.edu).

"Effects of season and microhabitat on butterfly communities in a neotropical dry forest"

ABSTRACT: Butterflies are typically segregated in both time and space at the microhabitat scale, but few studies have examined the distribution of multi-species assemblages simultaneously across both of these dimensions. A survey of bait-attracted butterflies was carried out in a dry forest in western Ecuador in 2009. A total of 1867 individuals and 89 species were collected from several families. Butterfly assemblages differed between microhabitats, especially in the dry season. The differences between butterfly assemblages between seasons and microhabitats were significantly related to microclimatic variables, including variation in relative humidity and temperature, and vegetation structure. The tight relationship of butterfly communities with microclimatic conditions and vegetation structure suggests that climate change is likely to significantly affect these assemblages, especially in tropical deciduous forests.

Chia-Hsuan[1], *Mathieu Joron*[2], *Yen Shen-Horn*[1]
[1]Department of Biological Sciences, National Sun Yat-Sen University, Kaohsiung, Taiwan, R.O.C.; [2]Département Systématique et Evolution, Muséum National d'Histoire Naturelle, Paris, France (shenhornyen@hotmail.com).

Poster presentation - **"The preliminary phylogeny of the *Papilio memnon* complex (Lepidoptera, Papilionidae) and the evolutionary origin of mimetic characters"**

ABSTRACT: Mimicry refers to that profitable/unprofitable organism is protected by sharing conspicuous signals with unprofitable species. The evolutionary origin of mimetic characters is still a complicated mystery, especially when polymorphism and sexually dimorphism involved. We adopt *Papilio memnon*, which is widely distributed in south-east Asia. The females are highly polymorphic and many of them were considered as mimics of Troidini swallowtail butterflies. Previous studies reported that in total seventeen female forms are inheritable and the variations are controlled by what appears to be a series of at least eleven autosomal alleles at three loci, sex-controlled to the female in effect. The polymorphism restricted to the female of *P. memnon* has been regarded as classical textbook example of Batesian mimicry. However, having examined a long series of the museum material and observed field populations from different geographical areas, we strongly doubt if some of the putative mimicry of *P. memnon* really exist. Meanwhile, most female forms of *P. memnon* do not seem to involve in any mimicry ring, and this implies a peculiar and very unique case of female-limited polymorphism which is not necessarily correlated with mimicry. In order to investigate these questions, we reconstruct a phylogeny to infer the evolutionary trend of putative mimetic characters, and the origin of accurate or imperfect mimicry within the species complex. In the present study, we inferred the phylogeny using sequence data of COI-COII and EF1a genes from 6 subspecies of *P. memnon*, 6 species of the *memnon* complex and 5 other species of the subgenus *Melelaides* as outgroups. The result shows that: (1) *Papilio memnon* seems to be a monophyletic species, while there is significant differentiation between the subspecies of Himalaya-China-Taiwan-Japan and those of Sundaland; (2) no directional evolutionary trend from imperfect to accurate mimicry is observed; and (3) the red basal patch on forewing underside occurs twice

independently in *P. memnon* and *P. thaiwanus*. The final product of this study will be used to address if the "mimetic locus (loci)" of *P. memnon* is homologous with that of *P. polytes* and *P. dardanus*, or an unexplored locus (loci) which has promoted the enormous diversity of female polymorphism. **Keywords:** imperfect mimicry, sexual dimorphism, polymorphism

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Covell, Charles V., Jr., McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, PO Box 112710, Gainesville, FL, USA, 32611-2710 (ccovell@flmnh.ufl.edu).

"The Oldham County, Kentucky, July 4th Butterfly Count: An update, with possible evidence of climate change"

ABSTRACT: For the past 35 years, a one-day butterfly count has been held at the Horner Wildlife Sanctuary and Bob Horner farm at Brownsboro, Oldham County, Kentucky. Results of twenty-seven counts during this period, between 1976 and 2011, are presented, and diversity, numbers of species, and numbers of individuals recorded are discussed with special reference to indications of responses to climate change affecting this particular butterfly community.

Gallice, Geoff, McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, PO Box 112710, Gainesville, FL, USA, 32611-2710 (geoff.gallice@gmail.com).

Poster presentation - **"The Relationship Between Density and Range-Size in Neotropical Butterflies (Nymphalidae: Ithomiini)"**

ABSTRACT: A positive relationship between species abundance and distribution is one of ecology's few general 'rules'. However, most studies to date have focused on vertebrates of temperate regions, whereas the majority of Earth's species are tropical insects. I investigated the relationship between mean local density and geographic range-size for the first time in a diverse, Neotropical insect clade, the clearwing butterflies of the nymphalid tribe Ithomiini. Estimates of range-size were compiled using ecological niche modeling, and measures of mean local

density were gathered from five sites in eastern Ecuador. I found no relationship between density and range-size, at both the specific and generic levels.

Hayden, James, Florida State Collection of Arthropods, FDACS, Division of Plant Industry, P.O. Box 147100, Gainesville, FL 32614-7100 (james.hayden@freshfromflorida.com).

"*Penestola* and *Sufetula* in Florida"

ABSTRACT: *Penestola* Möschler and *Sufetula* Walker are small, brown and gray spilomeline crambids, each with two species in Florida. I review their morphology, behavior, attractants, and known distribution. *Penestola* species are related to *Duponchelia* (European Pepper Moth) and are predicted to feed on detritus in coastal, possibly intertidal, areas. *Sufetula* species in other countries bore in palm roots, and they have unusual characters that suggest relationships with other crambid subfamilies.

Hay-Roe, Mirian McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, PO Box 112710, Gainesville, FL, USA, 32611-2710 (mmhr@ufl.edu).

"Butterfly farming at the Yanesha native community: an effort to mitigate deforestation in the Chanchamayo region, Junin, Peru"

ABSTRACT: Butterfly farming is a sustainable business that provides economic incentives to villagers and farmers, allowing them to turn away from other activities that involve cutting down the forest. Here I am presenting an update on a project in the Chanchamayo and Palcazu valley in Junin, Peru, the habitat of the native community Yanesha. I will discuss our first achievements and our future goals.

Kawahara , Akito Y.[1]*& Daniel Rubinoff*[2] [1]McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, PO Box 112710, Gainesville, FL, USA, 32611-2710; [2]Department of Plant and Environmental Protection Sciences, University of Hawai'i,

Manoa, 3050 Maile Way, Room 310, Honolulu, HI 96822-2271, (kawahara@flmnh.ufl.edu).

"An extraordinary radiation of Hawaiian purse-cased *Hyposmocoma* (Lepidoptera: Cosmopterigidae)"

ABSTRACT: The spectacular Hawaiian moth genus *Hyposmocoma* includes more than 350 described species endemic to the Hawaiian archipelago. The total number of species may be greater than the radiation of *Drosophila*, as nearly every species is endemic to a valley or volcano. Unlike most cosmopterigids which are typically internal feeders of leaves, seeds and stems, *Hyposmocoma* has extraordinary life-histories and behavior, as some are known to be carnivorous, feeding on snails, while others are amphibious and can live under water. The genus is also unusual among Lepidoptera in that their larvae create protective "cases" in which they survive. An extraordinary morphological diversity of case types exists, and thus far, more than ten different types have been identified. The present study focuses on the "purse" case type, a group thought to be ancestral to other case types, such as the burrito and cone cases forms. Maximum likelihood and Bayesian molecular phylogenies indicate that the purse case evolved independently at least twice in the genus. Each purse clade is monophyletic and strongly supported with high bootstrap values and posterior probabilities. We tentatively call these two monophyletic groups the "flat purse" and the "tubular purse" types, and discuss the evolution and biogeography of purse cases on the Hawaiian Islands.

Matthews, Deborah L. & Jacqueline Y. Miller, McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, PO Box 112710, Gainesville, FL, USA, 32611-2710, (dlott@ flmnh.ufl.edu, jmiller@flmnh.ufl.edu)

"Lepidoptera associated with *Melanthera* in northern Honduras"

ABSTRACT: During the course of our surveys of the biodiversity of the Lepidoptera of Honduras, we have observed and collected several species of moths and butterflies associated with squarestem, *Melanthera* Rohr (Asteraceae). These composites thrive in disturbed sites such as the

edges of roads and trails, as well as areas cleared for farming. They are a common source of nectar for several butterfly species as well as a larval host plant for two butterfly species and several moths. Larvae and pupae of various species have been collected in both the flower heads and on leaves. We present images and results on species obtained thus far including Hesperiidae, Nymphalidae, Geometridae, Pyraloidea, and Pterophoridae.

Minno, Marc C. 600 NW 35th Terrace, Gainesville, FL 32607-2441, (mminno@bellsouth.net).

"Update on Listed Species Rules and the Status of Imperiled Butterflies in Southern Florida"

ABSTRACT: The Florida Fish and Wildlife Conservation Commission (FFWCC) revised its listing process in November 2010. If a species occurs in Florida and is listed by the USFWS, the Federal designation is now used by the FFWCC. In addition, animals previously listed as endangered by FFWCC, but not USFWS, were changed to State-designated Threatened. The FFWCC organized numerous surveys to look for the endangered Schaus' Swallowtail (*Heraclides aristodemus ponceanus*) from May 7 to June 19, 2011. More than 50 individuals participated in the surveys and reported observing 36 adults in Biscayne National Park and 6 on northern Key Largo, some of which may have been duplicates. There have been no reports of the Miami Blue (*Cyclargus thomasi bethunebakeri*) from Bahia Honda Key since July 2010. In an emergency action, the USFWS listed the Miami Blue as well as the Cassius Blue (*Leptotes cassius theonus*) and Ceraunus Blue (*Hemiargus ceraunus antibubastus*) as endangered. The latter two species are being listed due to similarity with the Miami Blue. Bartram's scrub-hairstreak (*Strymon acis bartrami*) and the Florida Leafwing (*Anaea troglodyta floridalis*) will likely be listed by USFWS as endangered in 2012. The only other imperiled butterfly in southern Florida currently being considered for listing by USFWS in the next few years is *Euphyes pilatka klotsi*.

Neal, Thomas M. & Jeffrey Slotten. McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, PO Box 112710, Gainesville, FL, USA, 32611-2710, (chouwah@aol.com, jslotten@bellsouth.net)

"Life History Notes on North American *Euerythra* spp. (Erebidae: Arctiinae)"

ABSTRACT: There are two species of North American *Euerythra*, *E. phasma* Harvey and *E. trimaculata* Smith. The early stages for both of these species, as well as their foodplant, *Sideroxylon* (Sapotaceae), have been unknown until recently. Presented here are photographs of adults and early stages as well as foodplant and habitat photos. Also discussed are geographic ranges, larval feeding behavior, and brood frequency.

Ortiz-Acevedo, Elena & Keith R. Willmott. McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, PO Box 112710, Gainesville, FL, USA, 32611-2710, (eortiz@ufl.edu).

"Molecular Systematics of the Butterfly Tribe Preponini (Nymphalidae: Charaxinae)"

ABSTRACT: The first complete species-level phylogeny for the nymphalid butterfly tribe Preponini is presented. In this molecular phylogenetic reconstruction three genes were used, comprising two mitochondrial genes, Cytochrome Oxidase subunits I and II (COI and COII), and the nuclear gene, Elongation Factor – 1 alpha (EF-1α). Of the three different methodologies that were employed to reconstruct the phylogeny, ML (Maximum Likelihood) provided the highest resolution. This phylogenetic approach allowed us to explore taxonomic limits at different levels. The position of *Anaeomorpha splendida* Rothschild, 1984 was examined to test tribal limits, with the result that maintaining monophyly of the tribe requires *Anaeomorpha*'s exclusion. A second goal was to investigate generic boundaries, in particular the relationship of *Noreppa* Rydon, 1971 to *Archaeoprepona* Fruhstorfer, 1915 and *Agrias* Doubleday, [1845] to *Prepona* Boisduval, 1836. In the first case, I synonymize *Noreppa* with *Archaeoprepona* syn. nov. based on its phylogenetic placement and available morphological data. For *Agrias*

and *Prepona* my results also suggest that these genera should be synonymized. I recommend this merging since *Agrias* is placed within *Prepona* and the morphological characters currently used to define these genera show that the same synapomorphies used to identify *Prepona* apply to *Agrias* as well. This study also revealed a number of potential taxonomic issues at lower levels that definitely merit further attention. These include the relationship of *Archaeoprepona amphimachus* (Fabricius, 1775) to *A. meander* (Cramer, 1775), *Agrias claudina* (Godart, [1824]) to *A. narcissus* Staudinger, [1885], broad divergence within *Prepona deiphile* (Godart, [1824]) that might merit recognition as two or more species, and the paraphyly of *Prepona pylene* Hewitson, [1854].

Reeves, Lawrence E. McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, PO Box 112710, Gainesville, FL, USA, 32611-2710, (lereeves@ufl.edu).

"Lepidoptera of Mount Kanlaon National Park, Negros Occidental, Philippines"

ABSTRACT: Over the past century, the Philippine Archipelago has suffered severe and widespread deforestation and habitat loss, with forests being reduced by more than 90% on most islands. The effects of these drastic modifications on Philippine biodiversity remain poorly understood, particularly among insects. The island of Negros has followed patterns of deforestation typical of the Philippines, with only three tracts of forest, including Mount Kanlaon National Park, remaining. In order to survey persisting biodiversity within the park I initiated an inventory of the butterfly fauna during summer 2011. I also initiated a study of frugivorous butterflies to investigate how butterfly species' range-sizes might influence their tolerance to habitat modification. This is the first study of its kind for butterflies in the Philippines, and among the first for a tropical insect group anywhere.

Scholtens, Brian[1], *John Snyder*[2], *Joe Culin*[3], *& Tom Smith*[1]. [1]College of Charleston, Biology Dept., Charleston, SC 29424; [2]Furman University, Greenville, SC; [3]Clemson University, Clemson, SC (scholtensb@cofc.edu).

"Moth Survey of Congaree National Park"

ABSTRACT: We surveyed the moth fauna of Congaree National Park, Richland Co., SC from November 2009 through October 2010. Congaree NP is a mature (containing a large stand of virgin trees) bottomland, floodplain forest of 10,725 ha. Previous surveys in the state have concentrated in the lower coastal plain and the mountains. This survey in the upper coastal plain examined diversity in a new region of the state, and provides a baseline data set for park managers. We visited the park for one week each month, collecting moths using UV light traps (8-10 per trip), MV light sheets (1-2 per trip), and, in the winter months, bait trails painted on trees. Although we still have samples to examine from the summer months (primarily July and August), we have so far documented 841 species in 46 families (excluding butterflies), including at least 85 state records. Species composition is similar compared to collection records from the Dominick Collection in the lower coastal plain.

Shapiro, Arthur, Section of Evolution and Ecology, University of California, Davis, CA 95616-5224 (theochila@gmail.com).

"Signal and noise in a Mediterranean climate: What are California butterflies telling us?"

ABSTRACT: The Shapiro northern California database provides the longest continuous butterfly record in North America--up to 39 years for some sites, matched with climatological and (for low-elevation sites) land-use data. Mediterranean climates are characterized by high variability on short time scales. Given that variability, what have we been able to extract from the data that can help us understand biotic responses to longer-term environmental change?

Shipher, Wu[1], *Shiuh-Feng, Shiao*[1], *Yen Shen-Horn*[2],
[1]Department of Entomology, National Taiwan University, Taipei, Taiwan, R.O.C.; [2]Department of Biological Sciences, National Sun Yat-Sen University, Kaohsiung, Taiwan, R.O.C.
(shenhornyen@hotmail.com)

Poster presentation - **"Phylogenetic relationships of Agaristinae (Lepidoptera: Noctuidae) based on adult morphology, with special reference to the biogeography of the "sound-producing clades" and the evolution of diurnality"**

ABSTRACT: The Agaristinae represents a large subfamily of Noctuidae, consisting of 127 genera and about 500 species ranging throughout all the major continents except Antarctica and Greenland. The adults of this subfamily could be diurnal, crepuscular, or nocturnal, and are often characteristic with bright and contrasted colouration that is considered relevant to aposematism or mimicry, which is unusual in Noctuidae. The larvae of Agaristinae also exhibit bright colouration and feed on several plant families that contain alkaloid secondary compounds. The male of several genera possess an exaggerated forewing tymbal structure which is used for sound production, and the distribution of these sound-producing genera seems to imply a Gondawanan origin. In contrast with its high diversity, the studies on Agaristinae systematics and biology are fairly rare compared with other noctuid groups due to the rarity both in the field and museum collections. In the present study, we present the first phylogenetic study of Agaristinae to address several questions: (1) is Agaristinae a monophyletic group? (2) is the classification system proposed by Kiriakoff (1976) approved by modern method? (3) if the taxa having swollen forewing costal margin are closely related and suggest any biogeographical significance? We first reconstructed a phylogeny using 69 adult characters obtained from 85 agaristine species representing 73 genera plus *Oncocnemis confusa* (Oncocnemidinae) and *Condica illecta* (Condicinae) as outgroups. The phylogenetic pattern shows that Agaristinae of the current concept is monophyletic, but adult morphology may have little help in resolving the relationship because both the male and female genitalia are relatively conservative across genera. The "chorotaxa" system proposed by Kiriakoff, therefore, cannot be rejected due to the poor resolution of the phylogeny. Meanwhile, the taxa having protruded forewing do not

constitute a monophyletic clade, so this character might have evolved independently on different continents. **Keywords:** diurnality, aposematism, Noctuidae, phylogenetics, acoustics

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Stocks, Stephanie D. Department of Entomology and Nematology, P.O. Box 110620, University of Florida, Gainesville, Fl 32611-0620, (sstocks@ufl.edu).

"A New Emerging Pyralid Pest in the United States: European Pepper Moth (*Duponchelia fovealis*)"

ABSTRACT: The European Pepper Moth (Lepidoptera: Crambidae) is a native to the marshlands of the Mediterranean and Canary Islands. Since 1984, it has spread though the plant trade into Africa, the Middle East, Europe and Canada where it has mainly been a pest of plants grown in greenhouses (vegetables crops, cut flowers, nursery plants, and aquarium plants). Since 2010 it has been detected in fifteen states in the U.S. As most of our vegetable and floriculture crops (at least in the southeast) are grown outside or in shade houses, there is concern among federal and state agencies, growers, and nursery owners that this pest could establish in the agricultural and floricultural landscape. However, as not much information is known about the ecology of the moth in its native habitat (i.e. marshlands), there is also the possibility that this moth might be able to establish in the natural landscape as well.

Thom, Matthew D. & Jaret C. Daniels. University of Florida Entomology and Nematology Department, University of Florida, Gainesville, FL 32611, McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History (mthom@ufl.edu, jdaniels@flmnh.ufl.edu).

Poster Presentation - **"Host plant choice in the frosted elfin, *Callophrys irus* (Lepidoptera: Lycaenidae)"**

ABSTRACT: Suitable habitat for organisms consists of open access to important and essential resources, such as light and nutrients for plants,

and food and nesting sites for animals. While these resources may be physically present in a habitat, they may not always be accessible to the organisms that need them to survive. A study investigating host plant choice by the frosted elfin butterfly, *Callophrys irus*, was conducted at Ralph E. Simmons Memorial State Forest in northern Florida in the spring of 2010. Resource use was measured by conducting surveys of the larval host plant, sundial lupine, *Lupinus perennis*. Occupancy by eggs and larvae and presence of larval feeding damage were recorded and compared to host and non-host vegetative characteristics such as sundial lupine density and grassy, herbaceous, and woody plant cover. Statistical analysis using logistic regression revealed lower occupancy of sundial lupine where non-host plant cover was high, and highest occupancy where non-host plant cover was low to intermediate. The low occupancy of host plants that were densely surrounded by vegetation suggests that factors such as apparency, quality, or access may influence oviposition preference. Reduced occupancy from increased nearby vegetation has important effects on the population at this site, and management should take into account non-host plant crowding of sundial lupine in order to preserve and promote this population of a rare butterfly.

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"Raiting, Flaiting, Fleeking and Flenting: Do we need new terminology for mate locating behavior in Lepidoptera?"

ABSTRACT: New names for mate locating behavior of some Colorado butterflies have been proposed by Scott and include RAIT, FLAIT and FLEEK, derived by combining letters of words describing the behaviors. The rationale for presenting new terminology is discussed. Is this new terminology needed and is it applicable to tropical species? Mate locating behavior of tropical riodinids will be reviewed.

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"Life on the Edge: an introduction to the East Coast's only endemic sand dune obligate butterfly, *Atrytonopsis* sp. undescribed 1, the Crystal Skipper (Lepidoptera: Hesperiidae: Hesperiinae)"

ABSTRACT: The Crystal Skipper (*Atrytonopsis* sp. undescribed 1) is known from sand dune habitats on barrier islands along North Carolina's "Crystal Coast", in Carteret and Onslow counties. Populations span a distance of only about 30 miles of coastline, from Hammocks Beach State Park on Bear Island in the west, to Fort Macon State Park (and nearby Radio Island) on Bogue Banks Island to the east; however, most former habitats between the two parks have been urbanized. Thus, this skipper has one of the most restricted distributions of any North American butterfly. First discovered in 1982, the population genetics of this skipper were recently studied by Leidner et al., yet the butterfly remains unnamed. A brief introduction to the ecology of this skipper is provided, as well as an overview of unresolved taxonomic issues in the *Atrytonopsis hianna* complex.

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"**Recent reports on the status of the Monarch butterfly *(Danaus plexippus)* overwintering colonies and nearby towns after catastrophic storms and flooding in January of 2010"**

ABSTRACT: The nine-month migration and overwintering cycle of the Eastern North American populations of Monarch butterflies (*Danaus plexippus*) is a phenomenon to be treasured not only by lepidopterists, but by anyone with a curiosity and passion for the natural world. A number of threats are present that endanger the butterflies and their migration, but a key stochastic event in January of 2010 dealt a swift blow to the viability of the Monarch colonies in Mexico. A powerful

winter storm pelted the colonies with a combination of snow, ice, hail, and wind, leaving a significant mark on the habitat and population numbers. In addition, the nearby town of Angangueo, which hosts the majority of ecotourists that visit the Monarch sites each winter, was devastated by a resulting flash flood that caused serious erosion, leading to the collapse of many buildings and roadways into and out of town. Although many news stories came from this event that emphasized the irrecoverable loss for both the town and the Monarch sanctuaries, a series of four expeditions painted a different light on the situation. A follow up trip in 2011 further showed that despite dramatic environmental stochasticity, the Monarch butterflies, as well as the people of Angangueo, are resilient and able to cope with such punctuated threats to survival.

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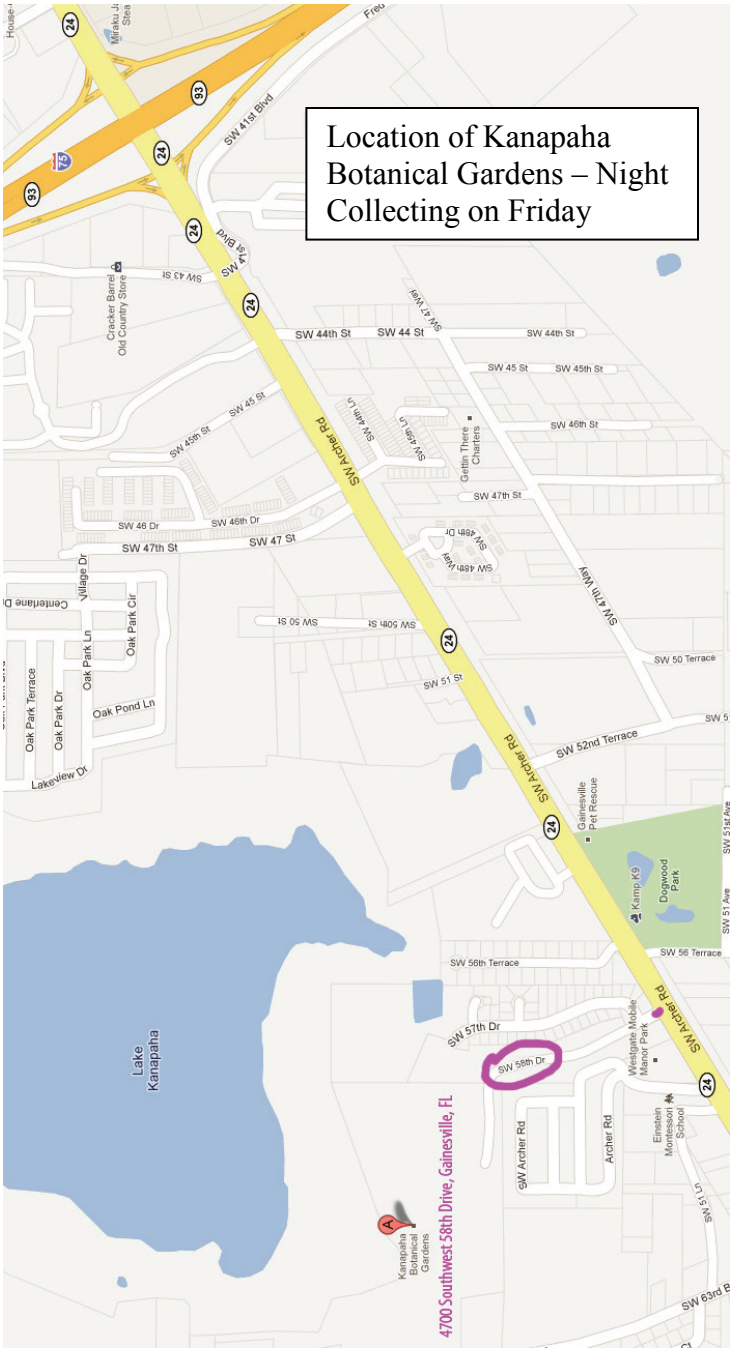
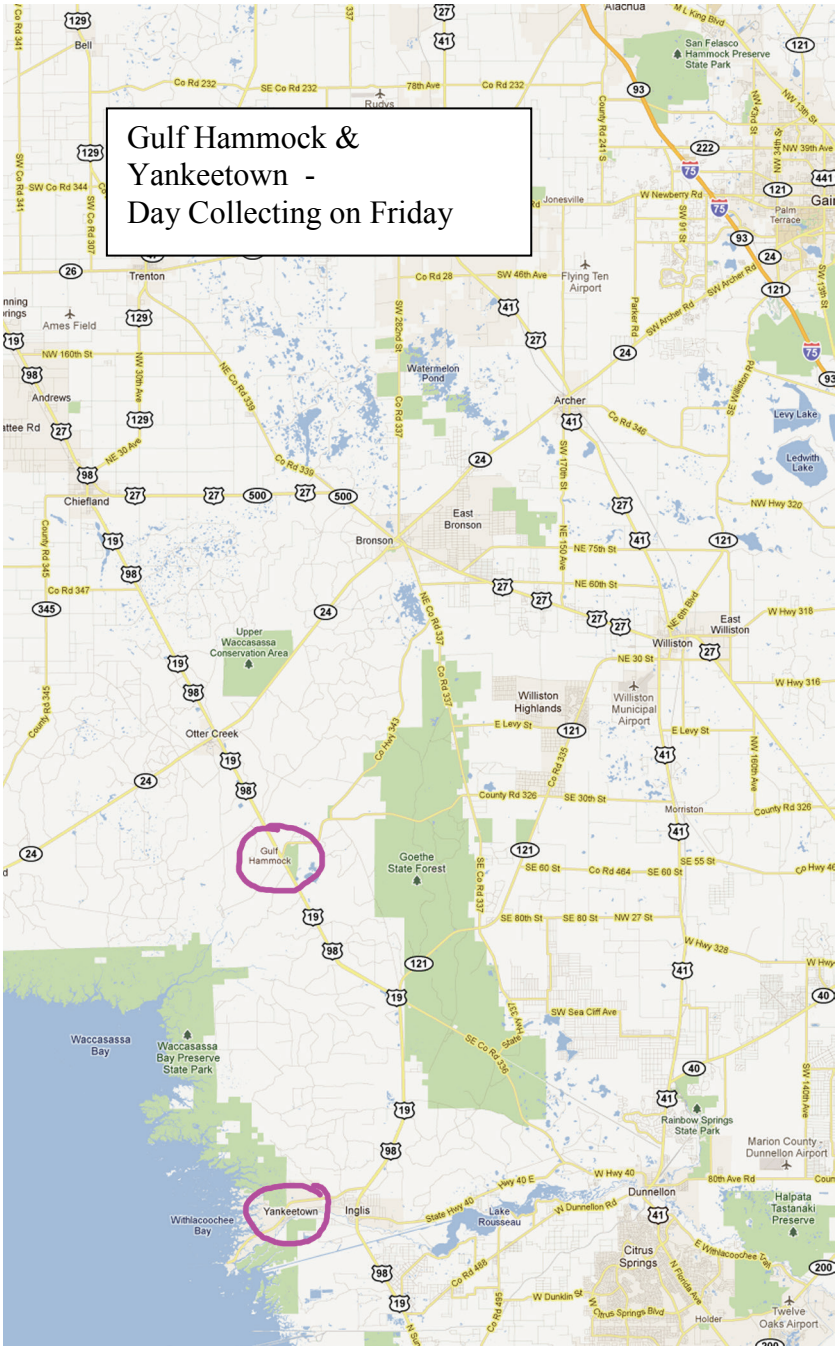
"Evolutionary history and the equatorial peak in neotropical butterfly species richness"

ABSTRACT: In most groups of Neotropical butterflies, as in the majority of organisms, species richness shows a broad peak around the equator and declines at higher latitudes. Numerous hypotheses have been proposed to explain this pattern, including ecological hypotheses, which consider how multiple species are able to co-exist, and evolutionary hypotheses, which consider how speciation and extinction have interacted over time to assemble communities. I discuss several evolutionary hypotheses, including the tropical conservatism hypothesis, the evolutionary time hypothesis, and the diversification rates hypothesis, and evaluate their importance in two diverse clades, the genus *Adelpha* and the subtribe Heliconiina. In both groups there is evidence that higher diversification rates in more tropical regions have contributed to the equatorial peak in species richness.


Location of Kanapaha Botanical Gardens – Night Collecting on Friday
SW 41st Blvd
SW 43 St
Cracker Barrel Old Country Store
SW 44th St
SW 45 St
SW 45th St
SW 46th St
SW 47th St
SW 47 St
SW 46 Dr
SW 46th Dr
SW Archer Rd
Getin There Charters
SW 47th Way
SW 50 Terrace
SW 51 St
SW 52nd Terrace
Village Dr
Oak Park Cir
Oak Park Ln
Oak Park Terrace
Oak Park Dr
Oak Pond Ln
Lakeview Dr
Gainesville Pet Rescue
Kamp K9
Dogwood Park
SW 51st Ave
SW 56th Terrace
SW 57th Dr
SW 58th Dr
Westgate Mobile Manor Park
Einstein Montessori School
Archer Rd
SW 63rd
Lake Kanapaha
Kanapaha Botanical Gardens
4700 Southwest 58th Drive, Gainesville, FL


Gulf Hammock &
Yankeetown -
Day Collecting on Friday
Gulf Hammock
Yankeetown

Saturday Morning: There is an event in the main gallery so we have been asked to please enter the McGuire Center via the stairs on the north side of the building (pink arrow). This is also the location from the group photo at 12:15.

NOTES: