



McGuire Center

Florida Museum of Natural History

April, 2008

Issue 2

UF | University of Florida

News

Center's Exhibits:

Cast the Nets Broadly, but Aim High

The McGuire Center for Lepidoptera and Biodiversity is a place that truly illustrates the popular saying: "It takes all kinds to make the world."

From scientists, obsessed with the number of setae, the shape of the uncus, or the position of androconia (go Google it, if you want!), to educators and horticulturalists, we are all housed under the same roof (though a few are under a screen, which does not keep out sun or rain). Different as we might be, we are all united by the same purpose, the purpose of changing the future.

One might say that the future is not yet here, but unfortunately that is only partially true. The future is here in the form of deforestation, pollution, extinction, global warming and other forms of environmental degradation, which are decreasing biodiversity. It is also here in the form of various unwanted social phenomena, caused, as Richard Louv put it in his recent book *Last Child in the Woods*, by a "Nature-Deficit Disorder" in our children.

The McGuire Center's live butterfly exhibit, a.k.a. "the Butterfly Rainforest," has become a major hit for both children and adults in Gainesville since its opening in 2004. However, there is more to the educational component of the McGuire Center's exhibits than just watching pretty butterflies in a beautiful garden. Even within the Butterfly Rainforest, the docents and employees of the museum are ready to explain to visitors the peculiarities of butterfly ecology. Educational exhibit panels offer basic information on ecology as well as a unique opportunity to touch the "untouchable," reliefs of a butterfly eye, tongue, or wing scales, magnified millions

of times, created by a museum

sculptor, Ron Chesser, who worked from photographs taken on an electron microscope. Outside the Rainforest, the live exhibit continues in the form of a recently added Florida Wildflower and Butterfly Garden. Not only butterflies, but frogs, lizards, and birds are at home here. One resident, a perfectly harmless black racer snake, is often seen sunning itself in this garden.

Indoors, there is the world's largest museum exhibit on butterfly and moth diversity. The Wall of Wings tells at one glance the story of diversity and beauty, which is epitomized by the Lepidoptera. It also tells a story of the passion that people have for butterflies, which is often manifested in an enthusiasm for creating collections. These private collections, which allow people to experience and interact with nature, are often donated to museums like the McGuire Center. Once visitors reach the end of the Wall of Wings, they are able to see firsthand through the glass the vast scientific collection housed by the institution. These specimens were collected by thousands of amateurs and professionals throughout the world during a period of more than 200 years. They represent millions of hours and hundreds of millions of dollars spent on travel, preparation, and curation. These collections were mostly made during times when natural environments seemed endless compared to the mild encroachment of human civilization.

The rearing lab in the middle of the Wall of Wings offers visitors a glimpse of emerging butterflies, which are shipped here as pupae from around the world. Turning the corner at the end of the Wall of Wings, visitors enter a new realm. Windows into the laboratories show how scientists study and propagate butterflies and moths for research or conservation. Here, one also can watch preparators as they meticulously mount

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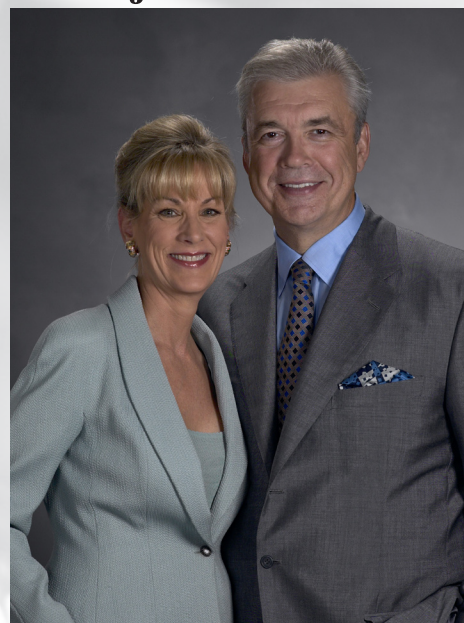
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Florida Entomological Society Recognizes the McGuires with Major Honor

The Florida Entomological Society honored William and Nadine McGuire as Pioneers in Florida Entomology during the Annual Meetings, July 16-19, 2007, in Sarasota, Florida.

The McGuires were acknowledged for their detailed scientific and taxonomic studies on skipper butterflies (Hesperiidae), especially the genus *Hesperia* and the subfamily Megathyminae, both exceedingly difficult groups. Through their work on these groups, the McGuires have provided a leadership role in the use of Lepidoptera as bioindicator species for the state of the environment and biodiversity. Their efforts also helped in recognizing entomological and other collections as valuable resources for scientific investigations, as well as educating the general public about natural history.

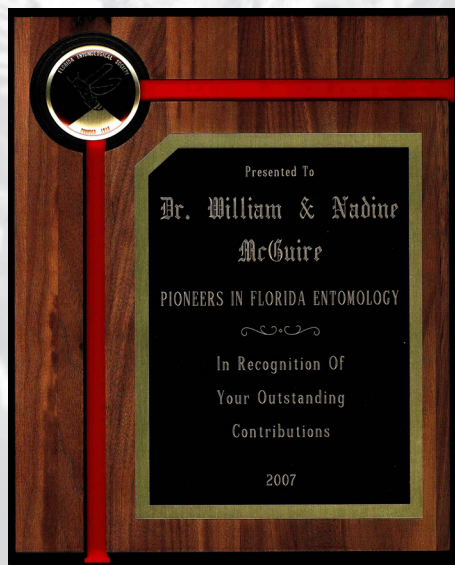
Finally, the Florida Entomological So-



Nadine and William McGuire

ciety further recognized the McGuires for their extraordinary philanthropy in founding the McGuire Center for Lepidoptera and Biodiversity and in devoting financial support for the training of undergraduate and graduate students from around the world at the University of Florida.

Since its opening in August, 2004, the McGuire Center has developed rapidly into a world-class research and educational facility. The Center showcases the tremendous vision of Dr. William and Nadine McGuire and demonstrates convincingly how science, avocation, and philanthropy can seamlessly blend to the benefit of nature and humankind.



Support the McGuire Center

The McGuire Center for Lepidoptera and Biodiversity relies upon the generosity of private donors to build and enhance its collections, educational outreach efforts and international research programs. Every gift is important and contributes to our success. **Private Gifts** are accepted and are tax-deductible. Private donations support student and faculty research, endowed chairs for curators, collections maintenance, exhibits and education programs. Named endowments may be established at 30,000 and may be eligible for state matching at \$100,000 and above.

The Monarch Society: Donors who commit \$10,000 to this fund receive permanent recognition in the McGuire Center and are invited to participate in special events.

For additional information about donation opportunities within the McGuire Center and the Florida Museum of Natural History, please contact Beverly Sensbach, Director of Development, at (352) 273-2087 or sensbach@flmnh.ufl.edu.



The 22 March, 2008 issue of St. Petersburg Times Magazine (above), a publication received by half a million residents of the Tampa Bay area, was dedicated entirely to butterflies, with a two page article on the Butterfly Rainforest and the role the McGuire Center has played in developing an innovative school curriculum at one of the Gainesville schools. To view it on-line go to: <http://adserver1.harvestadsdepot.com/stpetetimes/ss/076611/>



Curator of Lepidoptera Lee D. Miller passed away peacefully at home on 5 April, 2008, with his wife, friend, and colleague, Jackie, at his side. Lee's contributions to the science of Lepidopterology were numerous, ranging from descriptions of many species of Neotropical and African butterflies to creating and curating one of the world's finest and most complete butterfly collections at the Allyn Museum of Entomology. He also co-authored a catalogue of the North American butterflies and several books. Donations may be made in Lee's memory to the McGuire Center for Lepidoptera and Biodiversity to support undergraduate students.

Survey of Paynes Prairie Moths

The staff of the McGuire Center has been conducting species inventories not only around the world, in places such as Armenia, Ghana and Ecuador, but also close to home. An investigation to inventory the moths occurring at Paynes Prairie Preserve State Park was initiated in late June 2007 by G. T. Austin, P. Z. Goldstein, and C. V. Covell, Jr. with financial support from the Board of the Florida Museum Associates. This is an ongoing investigation with full support from the park manager, park biologist, and others involved with the park.

Inventories should always be backed by voucher specimens. To date, about twenty nights have been spent within the park, producing a sample of nearly 500 species of moths of 30 families. The captured samples have been brought back to the McGuire Center, prepared, labeled, accessioned, and sorted. Their identification is an ongoing process, but approximately 80% are now identified to species.

Inventories require long-term commitment due to ever-changing environments. They should help our



understanding of what is where, help fill gaps between those conducted elsewhere, and serve as historical records. When conducted on public lands, they not only promote cooperation between agencies, but give an appreciation to the full spectrum of diversity under the umbrella of protection, beyond what might have been the original targets.

Based on other inventories in north-central Florida, it is estimated that the total number of species at Paynes Prairie will eventually prove to be nearly 1,500. Continuation of this study into succeeding years will further enhance the McGuire Center's relationship with the state park system of Florida and especially with Paynes Prairie Preserve.

A separate project on richness and phenology of a moth community in



northcentral Florida is being continued by George Austin and Andrei Sourakov, and has been going for more than three years. Austin's collection and Sourakov's databasing and analysis have yielded interesting patterns in the seasonal variation of the moth fauna in Gainesville. To date, 1200 Lepidoptera species (95% moths) have been collected from a single small backyard in Gainesville. The latter study promises to have implications for our understanding of ecology well beyond local faunistic studies.

Collections and Acquisitions

Several major collections have been received this year, among which is a collection of U.S. moths (20,000 specimens) donated by J. Van Dellen and collected by Vincent P. Lucas; McGuire staff labeled every specimen in this collection prior to databasing and accessioning. A collection of wild silks and cocoon artifacts was donated by Ric Peigler. Ron Hirzel, while on a short break from his military duties in Iraq, donated his collection. Inhouse, John Heppner and George Austin continue to contribute tremendously to the growth of the collection, with over 10,000 specimens each this year alone.

Recent Donors of Specimens

Adair L.	Godefroi R.	Pappalardi G.
Anderson R.	Goldstein P.	Peigler R.
Austin G.	Habeck D.	Preston F. & J.
Boscoe R.	Hansen J.	Prusak Z.
Boyd B. M.	Harris L.	Serrano D.
Boyd Bret	Harry J.	Simon M.
Brock J.	Hedbor J.	Slotten J.
Brou V.	Heppner J.	Sourakov A.
Brushwein J.	Hirzel R.	Sparksman S.
Covell, Jr. C.	Hubbell P.	Stange L.
Davis L.	Hyatt J.	Sullivan J.
Dickel T.	Johnson J.	Taylor J.
Duetting P.	Johnson K.	Van Dellen J.
Edwards G.	Kistner C.	Wiley J.
Eger J.	Klein T.	Wilson N.
Eiler D.	Landolt P.	Woodruff R.
Eisele R.	Miller J. & L.	Zoller W. & S.
Filiatrault J.	Mills C.	
Finkelstein I.	Muller G.	
Gillmore R.	O'Brien C.	

continues from page 1

and label specimens. On the opposite wall from these windows are changing exhibits. Recently, this gallery featured giant prints of moths depicted so precisely that the detail of individual scales is visible, even though the wings may span six feet. Using extremely high resolution scanners, these images were created by Joseph Scheer, a digital arts professor from Albert University



Preparators meticulously mount and label specimens

Windows into the collections show scientists and technicians at work.

in New York, who recently authored a book *Night Visions: The Secret Designs of Moths*. The prints were loaned to the museum by William Tippit of central Florida.

Lepidoptera have important roles in many cultures and the McGuire Center's current and future exhibits are intended to reflect these. Butterflies serve as symbols of resurrection, reincarnation, the soul, good, or bad luck, depending on a culture.



Freshly emerged Monarch on Christmas Day at the butterfly garden near the McGuire Center

They are found in many paintings, including 1,500-year-old Aztec art, and 4,000-year-old Egyptian frescos. An antique Japanese kimono on display features butterflies in its design. A recent photography show by Andrei Sourakov, the McGuire Center's collections coordinator, depicted cultures encountered during a collecting expedition along the Tibetan border, as well as native butterflies and landscapes. Butterfly patterns on Mexican tapestries and butterfly artwork and jewelry from Zuni Indians were provided by Gary Ross of Baton Rouge for two separate exhibits, one of which is still on display at the Museum.

Another corner turned, and a visitor arrives at the sand dunes of the North Florida exhibition, from which hundreds of monarchs are seen flying into the air. The butterfly replicas are fixed in the air by thin invisible threads, each in a unique flight position. Higher up, the swarm of migrating monarchs heads across the hall, and leads the visitors back into the McGuire

For more information about the exhibits:
<http://www.flmnh.ufl.edu/butterflies/>

Center's main exhibition hall. Here, monarchs alight on a map of Mexico at the species' overwintering site. Panels on this wall, a.k.a. the World of Wings, tell stories of Monarch biology and conservation. There are nineteen further panels on conservation, ecology, and the genetics of specific butterflies. Visitors can find the geographical locations of the stories by simply lifting their heads, as the panels are located underneath satellite images of the world's continents.



Touch the untouchable

A panel in the Butterfly Rainforest features a bas-relief of a butterfly eye.

A problem recognized by many lepidopterists is that the average age of entomologists has been steadily increasing, with young biologists entering more financially rewarding fields. Few realize that many current and former members of various national academies might have never become scientists if not for their interest in butterflies at an early age. Though having broad appeal, our current and future exhibits are thus also aimed at capturing the imagination of future scientists and directing their interest to nature and biology.



The Wall of Wings tells at one glance the story of diversity and beauty which this insect order exhibits.

Left: A weekend at the Butterfly Rainforest - fun and education for the whole family.

Combined ATL and SLS Meeting

The combined annual meetings of the Association for Tropical Lepidoptera (ATL) and the Southern Lepidopterists' Society (SLS) were held at the McGuire Center, 5-7 October 2007. There were 42 registrants present with two foreign members. On the first day of the meeting, members had an opportunity to go on a field trip to the Goethe Forest.

The next day, there were many interesting presentations, which continued on Sunday and covered a wide range of topics from vertical stratification of ithomiine butterflies to a moth photographers' group website.

On Saturday evening, a banquet was held at the Museum. Our keynote speaker that evening was Torben Larsen, whose most recent of many books, *Butterflies of West Africa*, is a monumental work. Larsen also authored a much

lighter read: *The Hazards of Butterfly Collecting*. He captivated members with "Rambling through Africa for Butterflies and Conservation," describing the excitement, pleasures, and hazards of tropical butterfly research. Larsen is engaged in developing a century-long butterfly survey in West Africa in which the McGuire Center staff and students were invited to participate.

The slidefest organized by Bret Boyd was followed by door prizes hosted by Charlie Covell and James Adams.

The 2008 meetings of ATL and SLS will be combined with the Lepidopterists' Society, and will take place on 23-27 June at Mississippi State University.

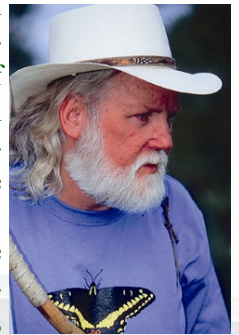
For more information, visit:
<http://www.trolep.org>
<http://www.lepsoc.org/>
<http://www.southernlepsoc.org/>

For more on Bob Pyle's journey, visit:
http://www.xerces.org/Butterfly_Conservation/butterflyathon.html

Where is Bob?

Throughout the year of 2008, Robert M. Pyle, a well known environmental writer (*Wintergreen*, *The Thunder Tree*, *Where Bigfoot Walks*, *Walking the High Ridge*, *Sky Time in Gray's River*, etc.) is traveling around the country to find as many butterfly species as possible. The literary fruits of this project will be published as a book, *Swallowtail Seasons: The First Butterfly Big Year*.

Bob arrived on March 20th, towards the end of the North American Butterfly Association meeting, at the McGuire Center. During his stay, he was hosted by museum employees Kathy Malone, Andrew Warren, and Charlie Covell. For a few days they accompanied Bob in his trips around north Florida, finding 47 species to add to his 2008 tally.



From the top, left to right: Jackie Miller, Floyd Preston, Terry Arbogast, Ulf Eitschberger, June Preston, J. D. Turner, Peter Eliazar, Bob Eisele, Torben Larsen, Bret Boyd, Lorraine Duerden-Rawls, John MacKoy, James Taylor, Kathy MacKoy, Jen Zaspel, Joe Riddleberger, K.T. Park, Rick Gillmore, Irvn Finkelstein, Marc Minno, Tom Neal, Jeff Slotten, Bob Belmont, Don Stillwaugh, Richard Anderson, Deborah Matthews-Lott, Tom Emmel, Eleanor Adams (photo by Andrei Sourakov).



The Annual ButterflyFest was held on October 13-14 at the Florida Museum of Natural History complex.

There were:

- field trips
- garden tours
- activities for children
- lectures on pollinators
- butterfly gardening tips
- Monarch tagging and releases
- commercial vendors
- tours of McGuire Center collections
- Butterfly Rainforest tours
- live entertainment

More than 6,300 registered visitors attended ButterflyFest in 2007.

The next ButterflyFest will be held on October 18-19, 2008. Visit the Florida Museum website for future updates.

Grants, Awards, and other News

SELECT GRANTS

Andy Warren received the \$4,000 Lewis and Clark Field Scholarship from American Philosophical Society for his fieldwork in Mexico.

Christian Salcedo received a \$1,000 grant from the Sigma-Xi Scientific Research Society; \$800 grant from IDEA WILD; \$250 Graduate Student Council grant; \$200 IFAS travel grant; \$200 Entomology and Nematology travel grant.

Jennifer Zaspel received a \$2,900 Systematics Research Fund grant from the Systematics Association for her research on the Vampire Moths and their Fruit-piercing Relatives; \$18,455 Research and Exploration Grant from National Geographic Society; \$11,267 Doctoral Dissertation Improvement Grant from the NSF; \$300 Davidson Travel Scholarship from the College of Agricultural and Life Sciences; \$500 Marie Stopes Travel Award from the Willi Hennig Society; and a \$5,287 grant from National Park Service for Preliminary Survey of the

courses at UF on Ecotourism and Grant Writing.

James Dunford received a 2004-2007 United States Navy Healthcare Collegiate Scholarship.

Mirian Hay-Roe received a \$10,000 Moore Foundation grant from the Amazon Conservation Leadership Initiative for her work on Biodiversity and Conservation in Peru. She also received a \$3,000 workshop award to assist in Interdisciplinary Studies in the Chemical Biology of the Tropics.

George Austin, Paul Goldstein, and Charlie Covell received a \$3,700 Paynes Prairie Survey grant from the Board of the Florida Museum Associates.

Jackie and Lee Miller received a \$4,500 grant for Museum Training and Intellectual Experiences for Undergraduates at the McGuire Center from the Board of the Florida Museum Associates.

Society on Collecting in the Tropics, and on moths at a butterfly festival at Fairchild Gardens, Miami, and Lukas Nursery in Oviedo, Florida.

Andrei Sourakov made a presentation on the Role of Lepidoptera in Science and Conservation at the Temaikén Conservation Foundation in Argentina.

Keith Willmott was an invited speaker at the International Conference on the Biology of Butterflies in Rome. His topics were: Maintaining Mimicry Diversity -- Microhabitat Segregation by Ithomiine Butterflies and their Avian Predators, and Phylogeny of the Ithomiinae Based on Morphological and Molecular Evidence.

OTHER STUDENT NEWS

On 19 November 2007, **James Dunford** successfully defended his Ph.D. dissertation on Systematics and Biogeography of the Genus *Speyeria*.



C. thalictri blood-sucking noctuid, feeding on Jen's finger.

Macrolepidopteran Moth Diversity in Big Cypress National Preserve.

Jaret Daniels received \$13,500 from the Florida Fish and Wildlife Conservation Commission for Conservation and Field Surveys of the Endangered Miami Blue Butterfly; \$12,000 from the Disney Wildlife Conservation Fund for Butterfly Conservation and Student Education; \$15,000 from Elizabeth Ordway Dunn Foundation for Florida Butterfly Monitoring Network Capacity Building; \$18,615 from Florida Wildflower Foundation, Inc. for publishing a Florida Wildflowers & Butterflies Brochure, and many other grants. He also taught two

SELECT PRESENTATIONS

Emily Saarinen won a President's Prize (2nd place) for Best Student presentation in Ecology Section at the Entomological Society of America meeting in San Diego.

James Dunford presented a paper on the darkling beetles of the eastern U. S. at the Ent. Soc. meeting. He also made a presentation on Butterflies and Global Warming at the North American Butterfly Association Meeting.

Mirian Hay-Roe gave a seminar at the U. F. Entomology and Nematology Department on Chemical Ecology and Behavioral Studies in Neotropical Butterflies. She also gave a talk at the U. S. Army Medical Research Institute of Chemical Defense about Cyanide Detoxification in *Heliconius* Butterflies, and at the Smithsonian Tropical Research Institute, Panama, on Behavioral and Ecological Studies in *Heliconius* Butterflies. She also taught an Honors course in Biology of Butterflies at UF.

Charlie Covell taught Aquatic Entomology at UF. He also gave a presentation at the Annual Meeting of the Lepidopterists'



Delano Lewis and Christian Salcedo passed their PhD qualifying exams.

Emily Saarinen has been actively working in the ancient DNA lab extracting DNA from specimens from the 1940s.

TRAVEL (in part)

John Heppner led a month-long survey expedition to Peru in Nov. 2007.

Keith Willmott taught courses and conducted fieldwork in Ecuador and Colombia in Sept-Dec., 2007.

Andrei Sourakov conducted field work in Argentina in Feb. 2008.

Andrew Warren continued his work in Mexico.

Thomas Emmel led expeditions to Madagascar, Puerto Rico, Ecuador, Costa Rica, and Mexico during 2007-08.



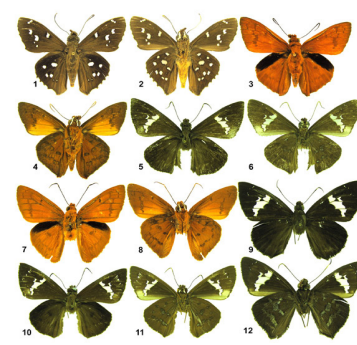
Many student volunteers contributed to scientific activities of the McGuire Center this year. Manwant Hans, Megha Ghiya, Rosa Cossio, Min-Hee Chu, Jina Ham worked with Mirian Hay-Roe on data entry and behavioral studies; Darryl Anthony, Bettina Moser, Andrew Lounsberry, Odette Rivera, Marne Pomerance, Letizia Pallozzi, Seema Khargonekar, Olivia Donda, Alexandra Sourakov, Elisabeth Sinyavsky, Riley Fulton, and Stacey Huber worked with Andrei Sourakov and George Austin on collection accessioning; Jane Blanchard, Morgan Edwards, Mark Ford, Lauren Johnston, Sam Landrian, Judi Muscile, Jimmy Nguyen, Gláucia Marconato and Ian Segebarth worked with Keith Willmott in curating and databasing neotropical butterflies, identifying and databasing Ecuadorian specimens, and assisting with IUCN Red List conservation assessments; Wendy Francesconi, Emma Wilcox, Valerie McManus all work with or are advised by Jaret Daniels.

Recent Publications (2007-2008)

2007

- Austin, G. T. and A. D. Warren.** 2007. The type of *Copaeodes chromis* Skinner, 1919 (Lepidoptera: Hesperidae: Hesperinae). *Insecta Mundi*, 0019:1-2.
- Austin, G. T., A. D. Warren, C. M. Penz, J. E. Llorente-Bousquets, A. Luis-Martinez and I. Vargas-Fernandez.** 2007. A new species of *Opsiphanes* Doubleday, [1849] from western Mexico (Nymphalidae: Morphinae: Brassolini). *Bulletin of the Allyn Museum* No.150: 1-20.
- Austin, G. T., and O. H. H. Mielke.** 2007. Hesperidae of Rondônia, Brazil: *Carystus*, with descriptions of two new species (Hesperidae: Hesperinae). *Bulletin of the Allyn Museum*, No.148:1-13.
- Austin, G. T., L. D. Miller, and J. Y. Miller.** 2007. Taxonomic comments on *Pseudolycaena* Wallengren (Lepidoptera:Lycaenidae: Theclinae:Eumaeini). *Bulletin of the Allyn Museum*, No. 149: 1-22.
- Boyd, B. M.** 2007. Holotype of *Agathymus escalantei* Stallings, Turner and Stallings, 1966 (Lepidoptera: Hesperidae: Megathyminae). *Insecta Mundi* (0018): 1-2.
- Brehm, G., Hartmann, T., and K. R. Willmott.** 2007. Pyrrolizidine alkaloids and pharmacophagous Lepidoptera visitors of *Prestonia amabilis* (Apocynaceae) in a montane rain forest in Ecuador. *Annals of the Missouri Botanical Garden*, 94(2): 463-473.
- Byun, B. K., and K. T. Park.** 2007. Discovery of two new species of Alucitidae from Vietnam. *Zootaxa*, 1390: 51-57.
- Covell, C. V. Jr.** 2007. July 4th Butterfly Count in Oldham County, 2007. *Kentucky Lepidopterist*, 33(3):5-6.
- Covell, C. V. Jr.** 2007. Letter to the 2008 Annual Meeting. *Kentucky Lepidopterist*, 33(4):7-8.
- Cuda, J. P., J.C. Dunford, and J.M. Leavengood.** 2007. Invertebrate fauna associated with torpedograss *Panicum repens* (Cyperales: Poaceae), in Lake Okeechobee, Florida, and prospects for biological control. *Florida Entomologist*, 90: 238-248.
- Daniels, J. C.** 2007. Courtship solicitation by females of the barred sulphur butterfly (*Eurema daira*) (Lepidoptera: Pieridae). *Journal of Insect Behavior*, 20(1):129-135
- Daniels, J. C.** 2007. Citizen science through compound eyes: How butterflies can help environmental engagement and learning. *CONNECT*, March: 26-27
- Daniels, J. C. & Sanchez, S. J.** 2007. The Butterfly Conservation Initiative: developing a new conservation vision through compound eyes. *News of the Lepidopterists' Society*, 49:1-3.
- Dunford, J. C., and G. T. Austin.** 2007. Nomenclatural *faux pas* for *Speyeria atlantis greyi* Moeck, 1950 (Lepidoptera: Nymphalidae). *Insecta Mundi*, 0017:1-4.
- Dunford, J.C., and W.E. Steiner, Jr.** 2007. *Leichenum canaliculatum variegatum* (Klug). University of Florida, Florida Cooperative Service, Institute of Food and Agricultural Sciences Extension Publication EENY-399.
- Dunford, J.C., P.W. Kovarik, L.A. Somma, and D. Serrano.** 2007. First state records for *Merope tuber* (Mecoptera: Meropeidae) in Florida and biogeographical implications. *Florida Entomologist*, 90: 581-584.
- Elias, M., Hill, R., Dasmahapatra, K., Willmott, K. R., Brower, A., Mallet, J., and C. Jiggins.** 2007. Limited performance of DNA barcoding in a diverse community of tropical butterflies. *Proceedings of the Royal Society of London B*, 274: 2881-2889.
- Hall, J. P. W., and K. R. Willmott.** 2007. Three new species of Symmachiini from Ecuador (Lepidoptera: Riodinidae). *Tropical Lepidoptera*, 16(1-2): 1-5.
- Hay-Roe, M. M., G. Lamas, and J. Nation.** 2007. Pre- and postzygotic isolation and Haldane rule effects in reciprocal crosses of *Danaus erippus* and *Danaus plexippus* (Lepidoptera: Danainae), supported by differentiation of cuticular hydrocarbons, establish their status as separate species. *Biological Journal of the Linnean Society*, 91: 445-453.
- Heppner, J. B.** 2007. Hickory horned devil, or royal walnut moth, *Citheronia regalis* (Lepidoptera: Saturniidae). *FL Dept. Agr. and Consumer Services, Div. Plant Industry, Entomology Circular*, 395: 1-2. (dated 1999; issued 2007)
- Heppner, J. B.** 2007. Notes on *Iophanus pyrrhias* in Guatemala (Lepidoptera: Lycaenidae). *Tropical Lepidoptera*, 17(1-2): 14.
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- Miller, J. Y.** 2007. Studies in the Castniidae. IV. Description of a new genus, *Insigniocastnia*. *Bulletin of the Allyn Museum*, 145: 1-7.
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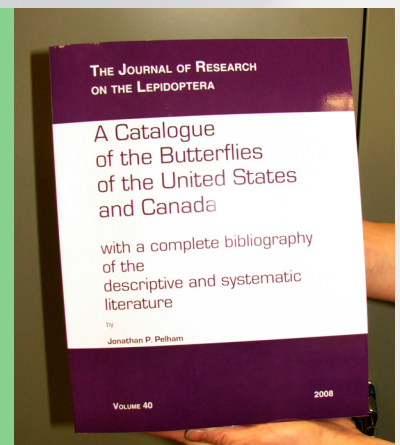
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With Andrew Warren serving as editor of the *Journal of Research on the Lepidoptera*, the monumental work *Catalogue of the Butterflies of the United States and Canada* has finally been published last month after 25 years in production. It was published as the journal's Volume 40 issue and sent to all the subscribers. It is also available through BioQuip at a price of \$25. Pelham's catalogue is 648 pages long and lists all the taxa and their synonyms of the North American butterflies occurring north of Mexico.



Some of the on-line resources maintained by the staff of the McGuire Center:

<http://www.butterfliesofecuador.com/>

<http://www.mariposasmexicanas.com/>

<http://www.andeanbutterflies.org/>

<http://www.lepidopterist.org/>

<http://www.Butterfliesofamerica.com>

Immatures of ithomiinae:

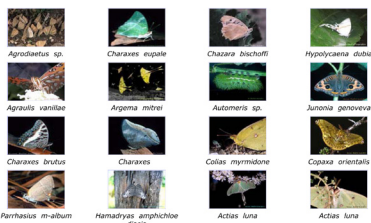
http://www.flmnh.ufl.edu/butterflies/neotropica/ith_imm.html

Lepidoptera photo database:

<http://www.flmnh.ufl.edu/butterflygallery/>

Lepidoptera Image Gallery

Search on the query:
Show All Images in the Gallery
returned 1133 images.



Recent Publications (2007-2008) - continued

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Willmott, K. R., and G. Lamas. 2008. A revision of *Megoleria* (Lepidoptera: Nymphalidae: Ithomiinae). Tropical Lepidoptera, 18(1): 46-61. *In press*.

Zaspel, J.M., Weller S.J., & Cardé, R.T. 2008. A faunal review of *Virbia* (formerly *Holomelina*) for North America North of Mexico (Arctiidae: Arctiinae: Arctiini). Bulletin of the Florida Museum of Natural History. *In press*.

Zaspel, J.M. & Hoy, M.A. 2008. Microbial diversity associated with the fruit-piercing and blood-feeding moth *Calyptra thalictri* (Lepidoptera: Noctuidae). Annals of the Entomological Society of America. *In press*.

Zaspel, J.M. 2008. Skin-piercing and blood-feeding Moths. Encyclopedia of Entomology 2nd Ed., Kluwer Academic Publishers. *In press*.

New Butterfly Website to Provide Comprehensive Coverage from Alaska to Panama

McGuire Center post-doctoral researcher Andrew Warren and coauthors Kim Davis, Jonathan Pelham and Mike Stangeland (plus many advisors), have designed a new website: **Butterfliesofamerica.com**, that aims to provide comprehensive coverage of all butterfly species, subspecies, and distinctive unnamed populations from Alaska to Panama.

The scope of the website is to provide collections of photos for every taxon. These will be of pinned specimens (including types), live adults, immature stages, larval foodplants, and habitats. In addition, each taxon will have a section devoted to its synonymy (past names of the species, which are no longer valid, but could be found in older literature). The bibliography will list important books and papers that lead users to specific distributional, systematic and ecological information. As the website develops, there are plans to include plates of multiple species for comparing similar taxa.

This is a long-term project, currently without external funding. To date, all work on the site has been accomplished through dedicated individuals donating their own time and resources. Thus far,

over 12,000 images have been posted to the site (donated by over 50 generous and skilled photographers), and we expect this number to exceed 20,000 or more within the next year.

For most users, the following page will be the most useful one on the site, since it includes the interactive listing of all butterflies from Alaska to Panama, including the Caribbean, with a very rough description of their geographic distributions:

http://www.butterfliesofamerica.com/Bfly_Names.htm

From this page, users can search for taxa, organized by family, subfamily, tribe and genus. See examples at:

http://www.butterfliesofamerica.com/brephidium_e_exilis.htm

.... /chlosyne_lacinia_adjutrix.htm

.... /asterocampa_celtis_antonia.htm

.... /anthanassa_tulcis.htm

The authors solicit photos, information about additional larval foodplants and references for the bibliography. If you can assist in helping the web site grow and become comprehensive, please contact the authors: www.butterfliesofamerica.com/authors.htm

[Main Page](#)
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[Jump to a family on the List...](#)
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Search for:

Brephidium e. exilis (Boisduval, 1852) (Western Pygmy-Blue)

[Pinned Specimens photo collection:](#)

[Live Adults photo collection Page 1:](#)

[Live Adults photo collection Page 2:](#)

[Immatures photo collection:](#)

[Larval Foodplants and Habitats photo collection:](#)

[Distribution and Larval Foodplants:](#)

Recent Seminars at the McGuire Center

In 2007, the Butterfly Conservation Initiative (BCI) relocated from its original host, the Association of Zoos and Aquariums (AZA) in Maryland, to the McGuire Center. BCI is a self-sustaining, national coalition of member and partner organizations dedicated to the conservation of threatened, endangered, and vulnerable North American butterflies and their habitats.

BFCI currently promotes recovery of the 22 butterfly species which are listed as endangered by the U.S. federal government. It also works to increase public awareness of and involvement in butterfly conservation. Its 43 member institutions include botanical gardens, museums, zoos, and aquaria. These organizations conduct captive breeding and reintroduction of butterflies, propagation of their host plants, and restoration of butterfly habitats.

Founded in 2001 as a result of discussions between the US Fish and Wildlife Service and AZA about the role of smaller institutions in local conservation, BFCI has made great progress towards its mission. Activities have forged new Karner blue butterfly

recovery partnerships and led to habitat restoration in Ohio. Meetings in the Pacific Northwest (Oregon, Washington, and British Columbia) and California, have brought people together to discuss future local and regional partnerships. BFCI partners have developed a Butterfly Conservation Needs Assessment, the only known single-source summary of



Karner blues from the Detroit Zoo breeding program before being released in restored habitat.

life history, recovery needs, and priority actions for North America's most imperiled butterflies, and a Butterfly Activity Guide for educators.

BFCI is governed by a diverse steering committee and supports a full-time program coordinator and website. Programmatically, BFCI has also been very successful, earning a Conservation Program Award in 2003 from the Association of Zoological Horticulture in recognition of its contributions to the conservation field.

- Fall 2007:**
- Sept. 18:** Dr. Thomas C. Emmel: "Three Famous Western Collections"
- Oct. 2:** Dr. Torben B. Larson, Denmark: "Forty Years of Studying African Butterflies"
- Oct. 16:** Dr. Charles V. Covell, Jr.: "Project Ponceanous and Notes on South Florida Activities in the 1970's"
- Oct. 30:** Emily Saarinen:
- "Conservation Genetics and the Miami Blue Butterfly"
- Nov. 13:** Dr. Jacqueline Y. Miller: "Biodiversity and Taxonomy of the Castniidae (The Butterfly Moths)"
- Nov. 27:** Christian Salcedo: "Chemical Communication in *Heliconius* roosting"
- Dec. 4:** Dr. Andrew D. Warren: "Mexican Butterflies"
- Spring 2008:**
- Jan. 8:** Charlie Covell: "Malaysia's Marvelous Lepidoptera: A Review of the T.C. Emmel 1994 trip."
- Jan. 15:** Dr. Chris Jiggins, Cambridge University "Adaptive radiation in *Heliconius* butterflies: from speciation ecology to gene expression."
- Jan. 22:** Marysol Trujano Ortega, Mexico: "Ecological Niche Modeling and Species Distribution: Fundamentals and Applications."
- Feb. 5:** Thomas C. Emmel: "Biodiversity and Insect Farming in Papua New Guinea" (with data from Rob Small, University of Cambridge).
- Feb. 19:** Dr. K. T. Park: "Forty Years of Taxonomic Work on Asian Microlepidoptera."
- March 4:** Delano Lewis: "Applications of Niche Modeling: Revisiting the Schaus Swallowtail and a proposal for modeling an invasive butterfly, *Papilio demoleus*."
- March 18:** Dr. Robert Woodruff: "Lepidoptera & Coleoptera Collecting Adventures in Guatemala."
- April 1:** Jaret Daniels/Stephanie Sanchez: "Butterfly Conservation Initiative: Current Programs and Evolving Partnerships"
- April 15:** Bruce Morgan – "Tracking Tigers in Thailand"
- April 18:** Adriana Briscoe, University of California-Irvine: "Adaptive evolution of color vision genes in a mimetic butterfly complex"

Long-term visiting scientists



K. T. Park just returned to South Korea after spending 6 months in Gainesville following his retirement from Kangwon National University. He will return to study

micro-moths at the McGuire Center each year for the next several years. See **Recent Publications** for more about his research.

Yang-Seop Bae, professor at University of Incheon, South Korea, began his research work at the McGuire Center in February 2008 for a 12-month sabbatical at UF. He will study Southeast Asian moths in the Center's collections.

Torben Larsen spent two weeks working on African butterflies in the collections.

Gláucia Marconato visited from the Universidade de Sao Paulo, Brazil for 6 months this year, working on the phylogeny of Charaxinae.

BFCI **News**

January/February 2003



**Woodland Park Zoo
Works to Save
Oregon Silverspot**

The release of captive-bred Oregon silverspot *Speyeria serena hypolyta* butterflies into the Oregon wild continues thanks in part to the work of BPCI member **Woodland Park Zoo (WPZ)**.

This medium-sized, brown-and-orange butterfly once ranged from Washington to Northern California where it occurred in coastal salt-penny meadows, stabilized dunes, and montane meadows. There it had available stands of early blue violet *Viola adunca*, the essential food plant of silverspot larvae. The silverspot is now believed to be extirpated from Washington and appears in only four known sites in Oregon.



The silverspot was declared a federally threatened species on July 2, 1980 and is classified as endangered on Washington Department of Fish and Wildlife's Species of Concern list. In 1999, the U.S. Fish & Wildlife Service (USFWS) revised a recovery plan for the silverspot and started a captive

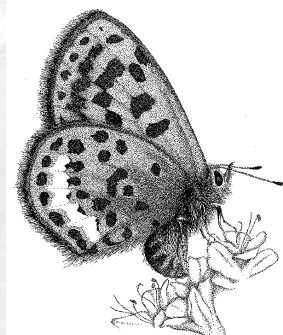
rearing and release program in partnership with the **Oregon Zoo** and Lewis and Clark College at the Nature Conservancy's Cascade Head Preserve in Oregon.



Newly eclosed male at Cascade Head, Nature Conservancy land on the Oregon coast. Photo: Erin Sullivan

Since that time, WPZ and other zoos, aquariums and government agencies have been directly aiding the effort through the preservation of habitat and the augmentation of the declining wild population. WPZ's curator Mark Myers, along with Collector Manager Erin Sullivan, keeper Lore Myers and Celine Pardo and horticulturalist Katrina Lindahl lead a team of zoo staff in *actively raising swamp tassel larvae and propagating early blue violets*. The *stirvorent program also involves the Zoo's youth education program Zoo Corps, whose members help harvest violet leaves for developing*

The silverspot propagation cycle begins when female butterflies are collected toward the end of their adult life, having already mated and laid the majority of their eggs in the field. They are then brought to the WFPZ or its headstarting partner the Oregon Zoo. The captive butterflies are induced to lay eggs in the laboratory where keepers provide daily feeding and care. After the eggs hatch, the first instar larvae are housed in hydration chambers and put into refrigeration for winter diapause from September until May.



The El Segundo Blue is an Endangered Species that inhabits sand dunes located inside Los Angeles International Airport. (drawing by Jaret Daniels)

See BFCI's ever-evolving website at:
<http://butterflyrecovery.org>

EXPEDITION TRAVEL PROGRAM

FIELD TRIPS LED BY FACULTY AND STAFF OF THE FLORIDA MUSEUM OF NATURAL HISTORY



The new Travel Program presented by the Florida Museum of Natural History and Expedition Travel, Inc. has had a busy start to the year with three big trips in three months. The year started off in January with our annual 5-day trip to visit the overwintering Monarch Butterfly colonies in central Mexico, led by Thomas Emmel, Director of the McGuire Center. With a group of 40 people, this once-in-a-lifetime experience was shared by long-time butterfly enthusiasts as well as by many newcomers to the fascinating world of butterflies. Following the Monarch trip was a nine-day trip to Costa Rica in February, entitled "Birds, Butterflies and Breathtaking Scenery," led by David Steadman, Curator of Ornithology at the Museum as well as Thomas Emmel. The trip was an instant success, and next year's trip to Costa Rica is already in the works! An encore trip to Mexico was offered during the first days of March to witness the animated and vibrant behavior of the Monarch Butterflies just before they begin their return trip northward for the spring.

The rest of the 2008 travel schedule will include exotic Lepidoptera research trips to places such as French Guiana and Ecuador and photography trips to Kenya, Papua New Guinea, and the Galapagos Islands. Please visit <http://www.flmnh.ufl.edu/butterflies/expeditions.htm> for more information.

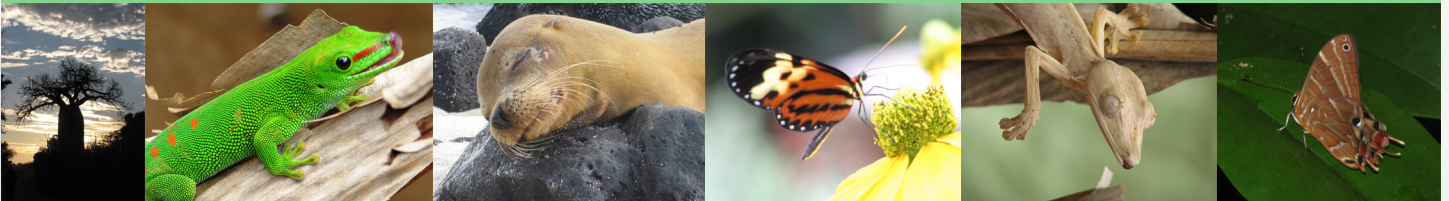
If you are interested in joining one of our trips, contact: **Expedition Travel, J. Court Whelan, General Manager, expeditiontravel@gmail.com, 352-871-2710.**

PHOTOGRAPHY AND NATURE EDUCATION

Safari to Kenya, July 26 – Aug 8, 2008
 Galapagos Islands, Nov. 29 – Dec 8, 2008
 Mexico: Monarch Migration, Jan. 16 – 20, 2009
 Mexico: Monarch Migration, Feb 27 – March 3, 2009
 Venezuela, 2009 dates coming soon!
 Costa Rica, 2009 dates coming soon!

EXPLORATION, RESEARCH AND LEPIDOPTERA

Panama, May 31 – June 14, 2008
 Ecuador: Misahualli and Tinalandia, June 28 – July 12, 2008
 French Guiana, Oct 18 – 31, 2008
 Southern Ecuador: Loja and Zamora, Nov. 24 – Dec. 7, 2008
 New Caledonia, 2009 dates coming soon!
 Guatemala, 2009 dates coming soon!



International Conference on Andean Butterflies: Cuzco, September 4-6, 2008



The first international conference dedicated to Andean butterflies will be held in Urubamba, near Cuzco, Peru. The conference is part of the Tropical Andean Butterfly Diversity Project, and offers, in particular, an opportunity for students to present their research and establish collaborations. Symposia on biogeography, conservation, butterfly farming, and biology and systematics of key groups are planned.

Contact Keith Willmott (kwillmott@flmnh.ufl.edu), or visit: www.mariposasandinass.org and www.andeanbutterflies.org for more information.



Opsiphanes blythekitzmilleri is More than Just a Name

In January of 2007, Collections Manager George Austin found an unusual specimen of owl butterfly (genus *Opsiphanes*) at the McGuire Center, originally collected in the state of Sonora, Mexico. George brought this butterfly to the attention of postdoctoral fellow, Andrew Warren, and together they started seeking additional specimens of what appeared to be an undescribed species of a very large and beautiful butterfly. While there are still many Lepidoptera species to be discovered, it is not common to find them in groups that are as well-studied as Owl butterflies.

Within a short time, they located additional specimens in collections in the United States and Mexico, and were able to determine that it did, indeed, represent a new species.

This species is remarkable not only because of its large size and unique wing markings, but also because it is the northernmost owl butterfly, a largely tropical group. The species is a

resident in Sonora, only 70 miles south of the United States border.

In an effort to generate support for Warren's ongoing research conducted in conjunction with the Alfonso L. Herrera Zoology Museum at Mexico's National Autonomous University, researchers from both institutions agreed to auction the rights to the name of this new species with an online auction site.

The auction, which ran from October 22nd to November 2nd, 2007, generated national and international media coverage, and resulted in \$40,800 earned for research on Mexican butterflies, enough to fund ongoing research programs for another year. The winning bidder, who has chosen to remain anonymous, bought the name on behalf of her and her four siblings, to honor their grandmother, Margery Minerva Blythe Kitzmiller (1883-1972). The name of the new butterfly is *Opsiphanes blythekitzmilleri* Austin & A. Warren, 2008.



A specimen of *O. blythekitzmilleri* in the collection of the McGuire Center.

To learn more about this species, go to:
http://www.mariposasmexicanas.com/opsiphanes_blythekitzmilleri.htm

Bibliographic reference to *Opsiphanes blythekitzmilleri* description:
Austin, G. T., A. D. Warren, C. M. Penz, J. E. Llorente, A. M. Luis & I. F. Vargas. 2007. A new species of *Opsiphanes* Doubleday, [1849] from western Mexico (Nymphalidae: Morphinae: Brassolini). *Bulletin of the Allyn Museum* 150:1-20.



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