



Phaëton

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Maryland Entomological Society

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EDITOR: **Eugene J. Scarpulla**
FACULTY SPONSORS: **Frank E. Hanson and Austin P. (Bob) Platt**
Department of Biological Sciences
University of Maryland Baltimore County (UMBC)
1000 Hilltop Circle
Baltimore, MD 21250

Meeting Announcement

The Maryland Entomological Society's 281st regular meeting will be held **Friday, May 13, 2011**, at **8:00 p.m.**, in **Room 004** (one floor below the street level), **Biological Sciences Building**, University of Maryland Baltimore County (UMBC). Bring a friend and specimens, observations and books to share. Refreshments will be provided. Presentations are scheduled to begin at 8:15 p.m.

Members' Potpourri Night

Speaker: **Joy A. Cohen and Edgar A. Cohen, Jr., Columbia, MD**

Title: **"Trips to Florida and Pennsylvania – 2010"**

The emphasis of this talk will be upon Joy and Ed Cohen's Florida excursions in the spring of 2010, during which they visited Sea World in Orlando, Withlacoochee State Forest near Inverness, the Fort Lauderdale area, the Florida Keys, and Winter Haven. They will show photos of butterflies, plants, birds and mammals seen in these areas. The talk will finish with a few photos of butterflies seen last year in Tioga County, Pennsylvania.

Speaker: **Peter R. Houlihan, Department of Behavioral Biology, The Johns Hopkins University, Baltimore, MD**

Title: **"Island Biogeography of Tropical Butterflies: phenotypic and genetic variation of a previously unstudied island in Panama"**

During the summer of 2010, Peter Houlihan worked as a visiting research scientist at the Smithsonian Tropical Research Institute in Panama to study the divergence of island butterflies over spatial and temporal scales. Through this work, Peter is documenting the species on a previously unstudied island for the very first time. Peter will be speaking about his ongoing project and most recent discoveries utilizing DNA barcoding, as well as future studies concerning systematics and biogeography of tropical butterflies.

Meet for Dinner before the Lecture

If you are interested in meeting for dinner before the lecture, you are invited to join the guest speaker and your fellow MES members at **Kibby's Restaurant and Lounge**, "Home of Baltimore's Best Shrimp Salad Sandwich." Kibby's is located inside the Baltimore Beltway at 3450 Wilkins Avenue, just 15 minutes from UMBC. Coupon specials can be printed online at <http://kibbysrestaurant.net>. We meet at the restaurant at 6:00 p.m.

For more information concerning this meeting, please contact one of the following people:

Annapolis Area:	Harold Harlan	(410) 923-0173 (Home)	haroldharlan@comcast.net
Baltimore Area:	Fred Paras	(410) 374-0425 (Home)	bugandrockman@msn.com
	Phil Kean	(410) 944-4630 (Home)	
	Frank Hanson	(410) 455-2265 (Biological Sciences, UMBC)	hanson@umbc.edu
Southern MD:	Bob Platt	(410) 586-8750 (Home)	platt@umbc.edu

15 APRIL 2011 MES MEETING MINUTES

The 280th general meeting of the Maryland Entomological Society was held on Friday, 15 April 2011 at UMBC and began at 8:12 p.m. with a welcome by **Fred Paras**. A large number of students were present from Fred's class at Baltimore City Community College to learn more about Chagas disease at the meeting's main program. Therefore, the program was presented as first order of business. It is summarized below. After the main program and informal discussions and refreshments, which again included ice cream kindly provided by members **Joy and Ed Cohen**, the Society's business meeting was convened. March minutes were read and approved, and the treasurer's report was delivered, citing current MES funds totaling \$2368.74. Fred announced that nominations for Society officers for next year continue to be open. He confirmed that all current officers have accepted re-nomination and that there were no additional nominations as of the current meeting (elections are held at the May meeting). The MES field trip will most likely be held the second weekend in June this year with a visit to Spruce Knob, WV and led by MES member **Harry Pavulaan**. A goal of this trip will be to witness the flight, at this time and location, of both sexes of the Appalachian Tiger Swallowtail, *Papilio appalachiensis* (Pavulaan and D. Wright), a species for which Harry is co-author. Fred read a work summary from post-doctoral Harvard researcher Krushnamegh Kunte who has pursued molecular research on *P. appalachiensis*. His work has shown strong evidence of the emergence of this species in the Central Appalachian region by means of hybrid introgression between populations of parental species Eastern Tiger Swallowtail, *Papilio glaucus* Linnaeus, and Canadian Tiger Swallowtail, *Papilio canadensis* Rothschild and Jordan. Several topics are slated for the May Members' Potpourri meeting.

Respectfully submitted, **Richard H. Smith**, MES Secretary

15 APRIL 2011 MES LECTURE

"Chagas Disease IN the United States" – Speaker: Harold J. Harlan, Ph.D., B.C.E. – Entomologist – Information Services Division, Armed Forces Pest Management Board, Forest Glen Annex, Silver Spring, MD

Dr. **Harold J. Harlan** began his talk with the general classifications of vector-borne diseases. Propagative diseases, such as West Nile virus, spread directly from vector to host with no changes in the infecting organism. Developmental diseases, such as dog heartworm, display a succession of stages of the infecting organism once contracted by the host. Cyclodevelopmental diseases, which include malaria, Lyme disease, and Chagas disease, display a required succession of stages of the infecting organism, both in the vector and in the host, to complete the cycle of reproduction and transmission. American trypanosomiasis or Chagas disease is caused by the flagellate protozoan parasite *Trypanosoma cruzi* that is transmitted to humans

through the feces of certain blood-feeding triatomine bugs, also called "kissing bugs." Triatomines are in the same family as assassin and wheel bugs (Reduviidae) and undergo incomplete metamorphosis consisting of five nymphal instars. The *T. cruzi* pathogen was first described by Dr. Carlos Chagas in 1909 while he was studying malaria in Brazil. The life cycle of *T. cruzi* is quite complex. The four major stages of the infecting organism are the epimastigotes, the amastigotes, the trypomastigotes, and the metacyclic trypomastigotes. Triatomine bug vectors ingest trypomastigotes through a blood meal from an infected host. These transform into epimastigotes and multiply in the vector's midgut. Once transferred to the vector's hindgut, the infecting organism differentiates into infective metacyclic trypomastigotes, which are transmitted to a host through feces (stercorarian infection) deposited either at the site of the bite wound or into mucosal membranes, such as the eye conjunctiva. Once inside the host, the trypomastigotes penetrate various cells, particularly muscle cells such as the heart, and transform into intracellular amastigotes which spontaneously multiply in the infected tissue. These transform into trypomastigotes, which enter the bloodstream and infect other host sites and as well as offer availability for ingestion by new externally feeding triatomines. Infected triatomines retain the organism throughout their lifespan. Symptoms of acute Chagas disease may be mild, consisting of variable fever, persistent sluggishness, and enlargement of liver and spleen (hepatosplenomegaly). These symptoms may appear one to three weeks after bite and infection. Children show symptoms of infection more severely. Clinical analyses may also reveal swelling of either the heart muscle (myocarditis) or the brain (encephalitis), both of which could be fatal. A swelling or "chagoma" may appear at the initial infection site. "Romana's sign" is a swelling of an infected site on the eyelid or near the eye where triatomines often feed. Chronic effects, which can be fatal and are irreversible in 20%-30% of patients, develop over a period of 20 or more years and may consist of myocardial damage (30% of chronic cases), arrhythmia, and morbidly swollen esophagus or colon (10% of chronic cases). The latter conditions result from improperly functioning infected muscle tissue. Tissue necrosis and hemorrhaging may occur sporadically in infected organs. Immunity suppression drugs can result in skin lesions and myocarditis in infected patients. Worldwide, an estimated 10 million people are probably infected with Chagas disease; most people do not know they have it. In 2008, over 10,000 people are known to have died from it worldwide. Thousands of pets and service animals also die from the disease annually. Treatment of the disease with medication is possible but success at eliminating the organism from the body is often only successful in the early stages of the disease before the amastigotes have overtaken large areas of tissue. Drugs of choice include azole or nitro derivatives such as benznidazole or nifurtimox. In the Western Hemisphere, historical regions of infection include most of Central and South America. *Triatoma dimidiata* (Latreille) and *Triatoma infestans* (Klug) are the major

vectors in Central America. Although triatomines capable of transmitting Chagas disease occur over the entire southern half of the United States (ten species are known), the only human autochthonous incidences (i.e., those only known to have originated locally) in the U.S. are isolated cases (8 total) in California, Texas, Tennessee, and Louisiana. Transmission is often in impoverished urban settings. Unfortunately, there are many routes through which one may become infected with Chagas disease besides exposure to feces of feeding, infected triatomines. These include transplacental transmission (mother to fetus), blood transfusion, organ transplantation, and consumption of metacyclic trypomastigotes in contaminated food and water. Triatomines often hide during the daytime within basal leaf layers of large-leaved plants, including palms and agaves. In these locations, they are exposed to numerous small mammals such as deer mice (*Peromyscus* spp.) and opossums (Didelphidae) as blood sources. The triatomine species native to Maryland and found from the Great Plains to the East Coast (in the lower half of the U.S.) is *Triatoma sanguisuga* (Le Conte). Dr. Harlan provided live specimens of this species in small glass containers for inspection. Locally, this species is often found hiding under jagged or shedding tree bark. They also occur in mammal nests and burrows. *Trypanosoma cruzi* was actually identified in raccoons in Maryland and reported in 1958. Thus, it may be maintaining a sylvatic cycle (only among wild animals and vectors) locally. In Texas and New Mexico, Chagas disease has been detected in wild animals and also in dogs and other pets (first reported in 2003). The vector there has been identified as *Triatoma gerstaeckeri* (Stål). In San Antonio, TX in the past 2-3 years, a large percentage of the dogs in a guard dog training facility were found to have Chagas disease. The means by which the dogs became infected is currently unknown, but likely transmission paths are being carefully investigated. General prevention strategies against Chagas disease include the following: 1) source reduction – eliminate or modify the habitat of vectors and all alternate hosts, 2) treat triatomine hiding sites with insecticides, 3) use personal protective measures such as repellents and bed nets to prevent human infection, and 4) enlist teams of medical advisors to educate the population at risk regarding protective measures.

Respectfully submitted, **Richard H. Smith**, MES Secretary

ELECTION OF MES OFFICERS

The annual election of MES officers will be held at the 13 May 2011 meeting. Officers serve for a one-year term (which is renewable). If nominees run unopposed, the election slate is voted on as whole. If there are two or more nominations for an office, that office will be voted on individually. Members must be present at the May meeting to vote. The slate of nominees for the upcoming membership year is:

President **Frederick Paras**

Vice-President **Philip J. Kean**
 Secretary **Richard H. Smith, Jr.**
 Treasurer **Edgar A. Cohen, Jr.**
 Historian **Robert S. Bryant**

SPRUCE NOB, WEST VIRGINIA FIELD TRIP & TALK – APPALACHIAN TIGER SWALLOWTAILS

The MES Annual Field Trip will be to Spruce Knob, West Virginia, on 11 June 2011 (12 June rain date) to look for Appalachian Tiger Swallowtails, *Papilio appalachiensis*, a "new species" evolved through hybrid introgression. It will be led by MES member and species co-author, **Harry Pavulaan**, who will display specimens and discuss the details and differentiating aspects from regular Eastern Tiger Swallowtails, *P. glaucus*, at the meeting site. Those interested in attending should contact Fred Paras at bugandrockman@msn.com. An e-mail announcement and directions will be sent out later in May.

CURRENT MES MEMBERSHIP LIST

Have you wondered who the other members of the **Maryland Entomological Society** are? Well, here is the latest membership list. There are currently 87 MES members. Members either reside or work in 16 states and the District of Columbia. The city and state of each mailing address follows each name.

Alexander, Joann L.	Silver Spring, MD
Andersen, William A.	Lutherville, MD
Androw, Robert A.	Gibsonia, PA
Bischoff, Joseph F.	Beltsville, MD
Brinker, David F.	Catonsville, MD
Bryant, Robert S.	Baltimore, MD
Carroll, John F.	Beltsville, MD
Cohen, Edgar A., Jr.	Columbia, MD
Cohen, Joy A.	Columbia, MD
Cullison, Ralph O., III	West Friendship, MD
Droege, Samuel W.	Beltsville, MD
Durkin, Pat	Washington, DC
Etheridge, Mark C.	Myersville, MD
Faulkner, David K.	Claremont, CA
Fee, Frank D.	State College, PA
Ferris, Clifford D.	Laramie, WY
Finnegan, Donna J.	Bumpass, VA
Florin, David A.	Silver Spring, MD
Foard, Timothy	Washington, DC
Frye, Jennifer A.	Wye Mills, MD
Fullerton, Stuart M.	Oviedo, FL
Gates, Michael W.	Alexandria, VA
Gerberg, Eugene J.	Gainesville, FL
Glaser, John D.	Berkeley Springs, WV
Gregoire, Suzanne M.	Burdette, NY
Gresens, Susan E.	Towson, MD
Guarnieri, Frank G.	Belgrade, ME
Hanson, Frank E.	Baltimore, MD
Harlan, Harold J.	Crownsville, MD

Harman, George H. Reisterstown, MD
 Harrison, Bruce A. Winston-Salem, NC
 Heppner, John B. Gainesville, FL
 Hershberger, Wil Hedgesville, WV
 Houlihan, Peter R. Bel Air, MD
 Hubick, William J. Pasadena, MD
 Israel, Stephen S. Baltimore, MD
 Jett, George M. Waldorf, MD
 Johnson, Steven G. Sunbury, PA
 Kean, Philip J. Baltimore, MD
 Lerner, William Baltimore, MD
 Lingafelter, Steven W. North Potomac, MD
 Lombardini, John B. Lubbock, TX
 MacRae, Ted C. Wildwood, MO
 Mason, Stephanie L. Tacoma Park, MD
 Mathis, Wayne N. Washington, DC
 McKeldin Library, U of MD College Park, MD
 Nickle, David A. Beltsville, MD
 Norden, Arnold W. Greenbelt, MD
 Orr, Richard L. Columbia, MD
 Osenton, Peter C. Jessup, MD
 Paraskevoudakis, Frederick Finksburg, MD
 Pavulaan, Harry H. Herndon, VA
 Platt, Austin P. Port Republic, MD
 Platt, Pamela C. Port Republic, MD
 Potyraj, James J. Louisa, VA
 Raupp, Michael J. College Park, MD
 Reese, John R. Jupiter, FL
 Ricciardi, Sue A. Arnold, MD
 Robbins, Richard G. Silver Spring, MD
 Scarbrough, Aubrey G. Tucson, AZ
 Scarpulla, Eugene J. Millers Island, MD
 Schamberger, Daniel J. Salisbury, MD
 Schiff, Nathan M. Stoneville, MS
 Smith, David R. Mt. Airy, MD
 Smith, Richard H., Jr. Columbia, MD
 Solano, Rafael T. Baltimore, MD
 Solem, Robert P. Laurel, MD
 Solem, Joanne K. Laurel, MD
 Solis, M. Alma Washington, DC
 Starry, Olyssa Baltimore, MD
 Steiner, Warren E., Jr. Cheverly, MD
 Suman, Theodore W. Easton, MD
 Sutherland, Douglas W. S. Greenbelt, MD
 Swearingen, Jil M. Cheverly, MD
 Terry, Deborah A. Timonium, MD
 Thompson, F. Christian Kingstowne, VA
 Todd, Robin G. Ellicott City, MD
 Turell, Michael J. Frederick, MD
 Tveekrem, June L. Columbia, MD
 Watson, Marcia R. Millers Island, MD
 Wheeler, Alfred G., Jr. Clemson, SC
 White, Harold B., III Newark, DE
 Worthley, Jean R. Finksburg, MD
 Wright, Martin J. Bumpass, VA
 Wymer, William H. North Potomac, MD

Young, James D. Baltimore, MD
 Zeligs, Joseph D. Bethesda, MD

ROBBER FLIES AND BIRDERS

In the November 2010 issue of *Birding*, the journal of the American Birding Association, Norman Lavers makes the case for robber flies (Diptera: Asilidae) to become the next recreational insect. Throughout the past decade, birders have become more and more interested in insect watching primarily due to the relatively recent availability of 1) close-focus binoculars and 2) field guides on an increasing number of insect taxa. This phenomenon began with butterflies and then expanded to dragonflies, damselflies, moths, tiger beetles, etc. Although no field guide is currently available, Lavers presents the reasons why robber flies could become the next recreationally-observed insect. The article citation is Lavers, N. 2010. Robber Flies: The Next Recreational Insect? *Birding* 42(6): 57-62. "The Robber Flies of Crowley's Ridge, Arkansas: An Illustrated Field Guide by Norman Lavers" can be viewed at <http://normanlavers.net/>.

TWO "EXTINCT" FLY SPECIES RECENTLY REDISCOVERED

An article in the *Boletín de la Sociedad Entomológica Aragonesa (S.E.A.)* has reported that *Thyreophora cynophila* (Panzer) (Diptera: Piophilidae) has been rediscovered in Spain after 160 years. The Piophilidae are known as cheese skippers or skipper flies. This fly is quite distinctive, possessing a shiny orange head and a shiny metallic dark blue body. The full citation is Carles-Tolrá, M., P. C. Rodríguez, and J. Verdú. 2010. *Thyreophora cynophila* (Panzer, 1794): collected in Spain 160 years after it was thought to be extinct (Diptera: Piophilidae: Thyreophorini). *Boletín de la Sociedad Entomológica Aragonesa (S.E.A.)*, n° 46:1-7. The full article (in English) with photographs can be found at <http://www.sea-entomologia.org/PDF/001007BSEA46Thyreophorabr>.

The National Museum, Bloemfontein, South Africa has reported that *Mormotomyia hirsuta* Austen (Diptera: Mormotomyiidae), the Terrible Hairy Fly, has been rediscovered in Kenya after 62 years. This fly resembles a spider, being wingless and having very long legs that are covered with very long hairs. Previously, *M. hirsuta* had only been collected twice before, in 1933 and 1948. The "World's Rarest Fly Rediscovered" National Museum news item with photographs can be found at <http://www.nasmus.co.za/museum/news/world%E2%80%99s-rarest-fly-rediscovered>.

SUBMITTAL DEADLINES

OCT 2011 issue of *Phaëton*: 14 October 2011.

SEP 2011 issue of *The Maryland Entomologist*: ASAP

Send drafts for both publications to ejscarp@comcast.net.