



Phaëton

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Maryland Entomological Society

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FACULTY SPONSORS: **Frank E. Hanson** and **Austin P. (Bob) Platt**
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1000 Hilltop Circle
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Meeting Announcement

The Maryland Entomological Society's 284th regular meeting will be held **Friday, 17 February 2012, 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.

Speaker: **Steven W. Lingafelter, Ph.D. – Research Entomologist**
United States Department of Agriculture, Agricultural Research Service, Systematic Entomology Laboratory

Title: **“Beetle Collecting in Vietnam”**

The talk will focus on a major expedition that was made to northern Vietnam last summer to study and collect Cerambycidae (longhorned woodboring beetles) and Buprestidae (metallic wood boring or jewel beetles). This work was part of a United States Forest Service [International Programs](#) and the United States Department of Agriculture (USDA) [Agriculture Research Service](#) project on the systematics of the genus that includes the invasive Emerald Ash Borer, *Agrilus planipennis* Fairmaire (Coleoptera: Buprestidae). The talk will highlight the difficulties and benefits of working in this part of Asia and will include many photos of the team members, habitats, collecting methods, beetles and other wildlife encountered.

Dr. Lingafelter is a research entomologist, working for the USDA [Systematic Entomology Laboratory](#) at the [Smithsonian Institution](#) since 1996. He has published 50 papers including 5 books on several families of beetles including Staphylinidae (rove beetles), Silphidae (carrion beetles), Chrysomelidae (leaf beetles), Curculionidae (weevils or snout beetles), Buprestidae, and Cerambycidae. His primary area of expertise is on Cerambycidae, with emphasis on Nearctic, Neotropical, and Asian faunas.

(Editor's Note: Anyone with an interest in identifying cerambycids needs to obtain a copy of: “Lingafelter, Steven W. 2007. Illustrated Key to the Longhorned Woodboring Beetles of the Eastern United States. The Coleopterists Society, Special Publication No. 3. North Potomac, MD. 206 pp.” This fully illustrated key covers 377 species and includes over 800 habitus and character photographs. The key uses only easily observable external characters. This is a must have for any coleopterist's library.)

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, Baltimore, MD 21229, just 15 minutes from UMBC.

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
Bowie Area:	Gene Scarpulla (301) 464-3170 (Home)	ejscarp@comcast.net
Southern MD:	Bob Platt (410) 586-8750 (Home)	platt@umbc.edu

18 NOVEMBER 2011 MES MEETING MINUTES

The 283rd general meeting of the Maryland Entomological Society was held on Friday, 18 November 2011 at UMBC and began at 8:45 p.m. with some opening words by the speaker Dr. **Michael Turell** (The President was momentarily on an errand.) and then with introductions by President **Fred Paras**. The main program immediately followed and is summarized below. Refreshments and informal discussions were enjoyed by all after the main program. Due to the facts that there were no pressing business items and that few MES members were available later, the business meeting was not held. Treasurer **Ed Cohen** was unable to attend, but he did relay to Secretary **Dick Smith** that the current MES funds total was \$2111.15.

Respectfully submitted, Richard H. Smith, MES Secretary

18 NOVEMBER 2011 MES LECTURE

“The Potential for North American Mosquitoes to Transmit Rift Valley Fever Virus” – Speaker: Michael J. Turell, Ph.D. – Research Entomologist, U.S. Army Medical Research Institute of Infectious Diseases, Fort Detrick, Maryland

Dr. **Michael J. Turell** has been a Research Entomologist and a principal investigator at the [U.S. Army Medical Research Institute of Infectious Diseases](#) (USAMRIID) at Frederick, MD for over 30 years. Dr. Turell began his presentation by summarizing some of the pathological aspects and history of Rift Valley fever. This disease is caused by an arbovirus in the genus *Phlebovirus* (*Bunyaviridae*) and is transmitted almost exclusively in nature by mosquitoes. The disease primarily affects ruminant animals resulting in significant economic losses due to livestock death and abortion. While most human cases are relatively mild, a small percentage of patients develop a much more severe form of the disease. This usually appears as one or more of three distinct syndromes: ocular disease (0.5-2% of patients), meningoencephalitis (less than 1%), or hemorrhagic fever (less than 1%). Human death rates for the first two forms of the disease are low; however, the case-fatality ratio for patients developing the hemorrhagic form is approximately 50%. For domestic livestock, adult animals are not severely affected, but the disease leads to nearly 100% fatalities among young animals and virtually all pregnant animals either die or abort. The virus was first identified in 1931 during an investigation into an epidemic among sheep on a farm in the Rift Valley of Kenya. Since then, outbreaks have been reported in sub-Saharan and North Africa. A major outbreak in Egypt in 1977 devastated the local sheep industry. Among humans, it was estimated that there were about 200,000 cases and about 10,000 deaths (598 deaths were “officially” recorded). In 1997-98, a major outbreak occurred in Kenya, Somalia, and Tanzania; and in September 2000, RVFV cases were confirmed in Saudi Arabia and Yemen, marking the first reported occurrence of the disease outside the African continent and raising concerns that it could extend to other parts of Asia and to Europe and the Americas. The disease surged in Kenya again in 2006-2007.

Most human infections result from direct or indirect contact with the blood or organs of infected animals, but the virus is also spread by infected mosquitoes, mainly in the genera *Aedes* and *Culex*; and mosquitoes are the primary source of infection in domestic animals. The virus is retained in mosquito eggs distributed in the soil. These eggs can remain viable for long dry spells; and during periods of flooding, the eggs hatch, and the resulting adults spread the disease. Initially uninfected mosquitoes contract the disease by feeding on infected livestock, and the disease is then spread to humans through subsequent mosquito bites. Animals, sick with the disease, have less energy to drive off biting mosquitoes and become major feeding targets. The pathogen can achieve extremely high densities in animal tissue. Not all mosquitoes that ingest the virus become infected or, if infected, transmit the virus. Several “barriers” to arbovirus passage, and ultimately transmission, have been identified in incompetent or partially competent mosquitoes. These include, among others, gut infection, gut escape, and salivary gland infection barriers. The extra-cellular basal lamina around the midgut epithelium and the basal lamina that surrounds the salivary glands may act as such barriers. Midgut basal lamina pore sizes are significantly smaller than arboviruses, but ultrastructural evidence suggests that midgut tracheae and tracheoles may provide a means for viruses to circumvent this barrier. Immunocytochemical evidence indicates the existence of a salivary gland infection barrier in *Anopheles stephensi*. The virus must overcome mosquito gut and then salivary gland barriers before it is capable of virus transmission. The infection process may take several days. At his research laboratory at USAMRIID, Dr. Turell studies RVFV-exposed species of North American mosquitoes to determine the competency of each species for RVFV transmission. To determine the extent of viral infection in a mosquito species, Dr. Turell’s process is to allow mosquitoes to feed on an infected animal (hamsters are usually used), hold the engorged mosquitoes for at least seven days, and then to test them. A fraction are allowed to re-feed, and another fraction are triturated (pulverized) and assayed for the virus (mosquito legs and bodies are triturated separately to establish level of virus dissemination). Virus transmission is determined by subsequent feeding on an uninfected animal. Virus infection of the mosquito is also introduced by means of microneedle intrathoracic inoculation. For mosquitoes with a disseminated infection, transmission rates ranged from 0-100%, with nearly all *Culex pipiens* and *Cx. tarsalis* transmitting virus by bite, while none of the *An. quadrimaculatus* transmitted this virus. Although *Aedes vexans* from Florida and Louisiana were relatively efficient vectors of RVFV, specimens of this species captured in Colorado or California were virtually incompetent, illustrating the need to evaluate local populations for their ability to transmit a pathogen. In earlier analyses, field populations of *Ae. canadensis*, *Ae. sollicitans*, *Ae. taeniorhynchus*, *Ae. cantator*, *Ae. excrucians*, *Cx. salinarius*, *Ae. triseriatus*, *Cx. territans*, and *An. bradleyi/crucians* were tested. The first three were found to be efficient vectors, the next three were moderately efficient, and the rest were inefficient vectors.

Thus, if RVFV were introduced into North America, a definite subset of mosquito species would be capable of transmitting it. These findings will be important to government organizations that will be responsible for mosquito eradication efforts in case RVFV is ever detected on our continent. The infection would most likely be carried by a returning tourist or a mosquito hitching a ride on an airplane. Currently, there is no specific approved treatment for the disease. An inactivated vaccine has been developed for human use; however, this vaccine is not licensed, is not commercially available, and has only been used experimentally to protect veterinary and laboratory personnel at high risk of exposure to RVFV. Other candidate vaccines are currently under investigation. Dr. Turell also described the extensive levels of security in place at the USAMRIID facility to prevent infection of laboratory personnel and accidental escape of infected organisms. Dr. Turell's lab is subject to the so-called Biosafety Level-3 procedures. Laboratory entry and exit involve compartmentalized stages with intervening shower and clothes-changing stations. All doorways and rooms are equipped with negative air pressure ventilation. Food and liquid storage and consumption for workers must take place outside the central laboratory experimental area. Dr. Turell said a challenge is to maintain sufficient hydration for live mosquitoes in the laboratory mosquito containment areas

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

DON'T FORGET TO RENEW YOUR MEMBERSHIP

Don't forget to renew your MES membership for the October 2011 through September 2012 membership year. Membership renewal notices were sent out with the September 2011 issue of *The Maryland Entomologist*. Yearly dues are **\$10** (individuals), **\$15** (household), or **\$5** (fulltime students). Please send your check (made out to Maryland Entomological Society) and any address or other changes to:

Edgar A. Cohen, Jr., MES Treasurer
5454 Marsh Hawk Way
Columbia, MD 21045
E-mail: edcohenfam@yahoo.com

WELCOME TO NEW MEMBERS OF MES

MES welcomes the following new members to the Society:

Lynette Fullerton	Lanham, MD
Cynthia G. Lane	Lynchburg, VA
David Mozurkewich	Lanham, MD
Robert B. Trumbule	Greenbelt, MD

HONORING MEMBER DONORS

MES wishes to honor these members who made charitable donations along with their recent membership renewals. These donations help with the printing and mailing of *The Maryland Entomologist*.

Patricia M. Durkin
Frank D. Fee

Frank G. Guarnieri
George H. Harman
William J. Hubick
Arnold W. Norden
Sue A. Ricciardi
Warren E. Steiner, Jr.
Jil M. Swearingen
Robin G. Todd
Robert B. Trumbule

HAROLD J. HARLAN FEATURED ON THE COVER OF *PEST CONTROL TECHNOLOGY*

MES member **Harold J. Harlan** is the subject of the cover story "Love at First Bite" in the 21 November 2011 issue of *Pest Control Technology*. The article details Harold's work with bedbugs since 1973. The full article can be accessed at <http://www.pctonline.com/pct1111-bed-bugs-scientist.aspx>

THE BUTTERFLIES OF HOWARD COUNTY, MD

MES member **Richard H. (Dick) Smith** and MES member **Robert P. (Bob) Solem** have created a website entitled *The Butterflies of Howard County, Maryland: A Biological Summary and Checklist in Phylogenetic Order*. Dick Smith compiled the information and reviewed all of the photographs. Bob Solem is the webmaster for the Howard County Bird Club, which hosts the webpage. The webpage contains a wealth of photographs showing the variation (including sexual dimorphism) that is possible for the various species. The website can be accessed at: http://www.howardbirds.org/butterflies/HC_Butterfly_photos.htm.

A PDF of the Howard County butterfly checklist is available at: <http://www.howardbirds.org/pdf/hocobutterflies.pdf>. The checklist gives the occurrence level, flight period, habitat, plants typically visited, and the larval host plants for each species.

JAPANESE CEDAR LONGHORNED BEETLE FOUND IN MARYLAND

The Japanese Cedar Longhorned Beetle (JCLHB), *Callidiellum rufipenne* (Motschulsky) (Cerambycidae), has been found and its identification confirmed in Maryland for the first time. It was found on Japanese cedar, *Cryptomeria japonica* planted in the Severn area of Anne Arundel County, MD. The identification was made by MES member/MDA Entomologist **Gaye L. Williams** and was confirmed by MES member/USDA Systematic Entomology Laboratory Research Entomologist **Steven W. Lingafelter**. MDA has been in contact with the Department of Agriculture of the out-of-state supplier of the nursery stock to see if the problem started there and is currently performing a survey in Maryland to determine whether it is established in the area where the infested stock was planted.

Additionally, JCLHB now has been found and the identification confirmed (by Gaye Williams) near Bel Air, Harford County, MD. It was found there in both *C. japonica* and in *Callitropsis*

×*leylandii*, Leyland cypress. MDA will be conducting a delimiting survey during February and March to determine the extent and severity of infestation(s). Maryland Cooperative Extension offices and MDA Forest Pest Management staff based in Harford County have been notified and are on alert for evidence of this pest.

Be on the lookout for this pest. It was detected due to dieback of leaders and branches of the infested plant material. Fully developed adult beetles were found in tunnels in the infested plants.

A USDA Pest Alert is available at:
<http://www.aphis.usda.gov/lpa/pubs/jclbpale.pdf>

Please feel free to contact me with any questions.

Submitted by MES member **Robert B. Trumbule**, Entomologist, MDA Plant Protection and Weed Management, RTrumbule@erols.com, (301) 982-3224

REQUEST FOR BACK ISSUES OF *THE MARYLAND ENTOMOLOGIST*

MES occasionally gets requests for back issues of *The Maryland Entomologist*. Issues 1(1) through 4(3) are in very limited supply and in some cases nonexistent. If you have back issues that you no longer desire to keep, please consider sending them back to the Society. Back issues can be dropped off at any MES meeting or mailed to the MES Secretary at: **Richard H. Smith**, 5213 Eliot's Oak Road, Columbia, MD 21044. Dick can be contacted at Richard.Smith@jhuapl.edu

BALTIMORE CHECKERSPOT PINS

MES member **Harold B. White** came across the Wm. Spear Design website offering enamel pins and zipper pulls of Maryland's state insect, the Baltimore Checkerspot, *Euphydryas phaëton* (Drury). The website also features other insects as well and can be accessed at: <http://wmspear.com/catalog.php?cat=52>

"HARRY'S BIG ADVENTURE: MY BUG WORLD!" Maryland Science Center – 4 February - 29 April 2012

The MSC is featuring "Harry's Big Adventure: My Bug World!", an exhibit for the whole family. The exhibit features live insects, nine interactive modules with hands-on activities, and exhibit areas tailored to guests of all ages. The MSC is located at 601 Light Street, Baltimore, MD 21230. Further information can be found at
<http://www.mdsci.org/exhibits/HarrysAdventure.html>

INSECT-RELATED PUBLIC PROGRAMS AT JUG BAY WETLANDS SANCTUARY

The [Jug Bay Wetlands Sanctuary](#) is offering insect-related public programs in the upcoming months. All programs meet at the [Sanctuary Headquarters \(McCann Wetlands Center\)](#), 1361 Wrighton Road, Lothian, MD 20711, and cost \$5 per person unless otherwise specified. Advanced registration is required.

Participants can download a registration form at:
<http://www.jugbay.org/education> or call 410-741-9330 for more information.

"Shredders, Scrapers & Predators"

Saturday, 5 May 2012; 1:00 – 4:00 pm
Entomologist Ben Hollister will discuss the river continuum concept and the functional feeding groups of different stream macroinvertebrates. Bring boots or shoes that can get wet to explore a stream. For adults and families with children at least 8 years old.

"The Importance of Pollinators"

Saturday, 2 June 2012; 1:00 – 4:00 pm
Entomologist Ben Hollister will discuss our local pollinators then lead participants on a hike to explore the River Farm Community Garden to see these vital insects at work. For adults and families with children at least 8 years old.

(Benjamin Hollister is a Research Associate/Post-Doctorate at the USDA Beltsville Agricultural Research Center, Chemicals Affecting Insect Behavior Laboratory.)

WASHINGTON, DC/BALTIMORE CRICKET CRAWL 24 AUGUST 2012

Cricket Crawl 2012 will be an evening sound census of the late summer crickets and katydids singing throughout the Baltimore/DC metro areas. It'll be a wonderful way to get people outside and excited about insects—a way of opening eyes and ears to the natural world while creating a sense of community and scientific process.

We expect teams of all sorts: neighborhood community groups, scout troops, faith communities, schools, retirement communities, nature centers, summer camps, groups of friends, and any other place-based and mentor organizations.

The Crawl is a joint effort of the [Natural History Society of Maryland](#) (NHSM), the [Audubon Naturalist Society](#), [Discover Life](#), and MES member **Sam Droege** of the United States Geological Survey (and life member of the NHSM).

Here's the website for the event that's scheduled for 24 August 2012: <http://pick14.pick.uga.edu/cricket/DC/index.html> Take a look at the details, and be sure to add the date to your calendar. (You can even brush up on your cricket and katydid calls on the site!) Then think about ways that you can help.

We'll need plenty of volunteers to spread the word, to help on the actual night of the event, and to offer insect workshops during the months before. In the early spring, we'll let all the nature groups and centers in the region know about the event, and we'll need your help to do that. During the summer months the NHSM will offer workshops to get people excited and would love to draw on the expertise of Maryland Entomological Society members for those. Then on the night of the event, volunteers will be in the field with teams or inside helping to process the data as it's phoned in.

Here's to the planning of a great event!

Submitted by NHSM and MES member **Linda M. Davis**