Phaëton

The Official Newsletter of the
Maryland Entomological Society

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February Meeting Pre-Announcement

The **M**aryland **E**ntomological **S**ociety's **314th** regular meeting will be held **Friday, 17 March, 2017**, at **8:00 pm**, in **Room 004** (one floor below the street level), **Biological Sciences Building**, University of Maryland Baltimore County (UMBC). Bring a friend, specimens, observations, or books to share. Refreshments will be provided. Presentations are scheduled to begin at **8:15 pm.**

Speaker: Daniel E. Perez-Gelabert, Ph.D. Research Biologist, Integrated Taxonomic Information System (ITIS) and Research Collaborator, Department of Entomology, National Museum of Natural History, Smithsonian Institution, Washington D.C.
Title: "Entomological Adventures in the Caribbean"

Abstract. Hispaniola is composed of two major paleoislands that have unique fauna. Important factors contributing to the high endemism among arthropods there are that: it is a moderately large tropical island and has several mountain ranges. Valleys in between the mountain ranges have varying climates and elevations creating a mosaic of ecosystems. Despite the riches of the arthropod fauna, historically, knowledge of the insects in Hispaniola has never been a high priority for its two tenant countries, Haiti and the Dominican Republic. Since the colonial times, political instability was a deterrent for the establishment of local naturalists and a culture of science. The lack of knowledge of arthropods in Hispaniola represents an opportunity to contribute important discoveries.

Dr. Gelabert's lecture will be a very general overview of his many entomological adventures in the Caribbean over the years. The focus of his adventures has been centered on advancing the taxonomic and faunistic knowledge of Orthoptera and building a general inventory on the existing knowledge of the arthropod fauna of Hispaniola as a platform to facilitate further studies.

Bio. Dr. Gelabert is a native of the Dominican Republic. His graduate training was initially at the University of Rochester, NY. Later, he completed his Ph.D. at the University of Chicago where his dissertation research was on the genetics of Drosophila speciation. His interest in Orthoptera began with his undergraduate thesis at the Universidad Autónoma de Santo Domingo, which focused on the cytogenetics of some local grasshoppers. His current research includes taxonomy of Orthoptera with particular emphasis on Caribbean fauna. Also, he has published a comprehensive checklist of all of the known surrounding marine, freshwater and terrestrial arthropods known from Hispaniola. He has collaborated with multiple scientists on publications dealing with various arthropod groups.

MEET FOR DINNER BEFORE THE LECTURES

If you are interested in meeting for dinner before the lectures, you are invited to join the guest speaker and your fellow MES members at the **Ships Café Restaurant and Crab House** located at **828 Frederick Road, Catonsville, MD**. If you plan to go to dinner, please email Fred Paras at bugandrockman@msn.com by noon on the day of the lecture. Fred will make a reservation for the group. Please meet at the restaurant promptly at 6:00 p.m. The restaurant can then seat us as a group. Ships Café only holds the table for 15 minutes; if we don't have enough to be seated, we lose the table. Also please bring sufficient cash. Ships Café does not do separate checks. There is limited parking behind the restaurant and on the street.

Directions to Ships Café: from the Baltimore Beltway (I-695) take Exit 13 (Frederick Road) West towards Ellicott City. The restaurant is 1/2 mile on the right (at the corner of Winters Lane). There is limited parking behind the restaurant.

Directions to UMBC from Ships Café: from the restaurant, go east (towards the Beltway) on Frederick Road. Turn right (south) at the first traffic signal onto Mellor Avenue. Mellor Avenue will become Hilltop Avenue. When Hilltop Avenue reaches Wilkens Avenue, go around the traffic circle into the University of Maryland Baltimore County campus.

Phaëton, **the Newsletter of the Maryland Entomological Society**
Volume 37, Number 3 **December 2016**

VACANCY FOR MES SECRETARY

We are requesting members to consider filling the vacant post of secretary of the MES. Primary responsibilities include taking and preparing meeting minutes, including summaries of lectures. If you are interested, please contact society president Fred Paraskevoudakis at bugandrockman@msn.com

HONORING MEMBER DONORS

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

Aditi Dubey

17 FEBRUARY 2017 MES MEETING MINUTES

The 314th general meeting of the Maryland Entomological Society was held on Friday, 17 February 2017 at UMBC and began at 8:35 P.M. with a welcome by President Fred Paras. The meeting proceeded immediately to the scheduled lecture, summarized below. There were discussions with the speaker afterward. A total of 14 MES members and 16 guests attended the meeting and presentation. Afterward, attendees enjoyed a period of interesting conversation, viewed specimens brought in by members, and helped themselves to a generous variety of refreshments. A number of members remained afterward for a brief business meeting.

The business meeting began with Fred discussing the need for someone to volunteer for the position of MES Secretary. No one present volunteered. Next, MES Treasurer, Ed Cohen, reported that the current general funds balance was $5,073.96. Fred announced the next two planned MES meeting speakers. On March 17th Daniel Perez-Gelabert, will be speaking on "Entomological Adventures in the Caribbean," with a focus on tropical Orthoptera. On April 21st Sarah Stellwagen will be speaking about spider glue. Gene Scarpulla announced that things are progressing well for both the 2017 and 2018 issues of The Maryland Entomologist. He also encouraged tonight's speaker, Hanna Kahl, to consider publishing her potential paper about the Tachinid parasites of cucumber beetles in a future issue of *The Maryland Entomologist*. She expressed an interest in doing that as soon as she and a potential co-author finish preparing a manuscript.

Gene Scarpulla further said that MES members should be actively encouraged to submit their latest news for publication in the *Phaëton* He stated that he also edits the semi-annual Journal of the Maryland Ornithological Society. Then it was mentioned that a long-time MES member, Dr. William Andersen, had banded an albatross in the 1940s, and that that bird is reportedly still alive and still laying eggs. After these discussions, the meeting was adjourned.

Respectfully submitted, ***Harold Harlan***

17 FEBRUARY 2017 MES LECTURE

Speaker: Hanna Kahl, MS student – Department of Entomology, University of Maryland; Editor of the *Phaëton*; Secretary and Website Manager, Ecological Society of America-Agroecology Section

Title: "Effects of Living Mulch on Arthropods"

Hanna began her presentation by pointing out that 75% of our crops depend on pollinators, and many crop species require multiple visits by suitable (effective) pollinators to fully develop their seed, grain, or fruit crop. If that doesn't happen, then the fruit will be aborted or misshapen and marketable yield would be reduced leading to reduced profits for grower. However yield also can be severely reduced by insect pests. In order to control pests growers often spray pesticides, but pesticides can have detrimental effects on pollinators. Thus, sustainable pest management practices that effectively reduce pest damage while conserving pollinators need to be developed and implemented.

One alternative pest management practice is encouraging beneficial insects like predators or parasites. As the diversity and abundance of beneficial insects increases, the crop yield can also increase. Hanna stated that there is a need for Integrated pest (**and** pollinator) Management, or IPPM (versus the more commonly used, classical term IPM). Beneficial insects need adequate habitat, free from toxins, and diverse, consistent, and abundant food. Thus, diverse environments can support a greater diversity and abundance of beneficial insects than monoculture crops.

There are several cropping systems and techniques that farmers can use to encourage beneficial insects and reduce costs. They can reduce the amount of pesticides used, revert to minimum tillage, use drip irrigation, and increase the structural diversity (*e.g*., plants, residues, *etc*.) of their fields. These actions produce more stable ecological niches and more diverse and plentiful food resources for beneficial insects. A common way to increase structural diversity is to increase the diversity of plants on the farm. Methods of increasing plant diversity include growing: polyculture (growing mixed, concurrent crops), crop rotation (varying crops grown across time within the same field), intercropping (alternating rows or strips of two or more different crops), hedgerows, border strips, trap crops (plants grown around a crop that attract and "trap" a pest), reintroducing native habitat on the farm (e.g. prairie patches in corn fields), or using cover crops. Cover crops also prevent or reduce soil erosion and improve soil quality between successive plantings of the main crop(s).

Hanna discussed several different hypotheses for how and why plant diversification strategies mentioned above effect reductions of particular pests' and their damage level in primary crops. The "enemies hypothesis" suggests that plant resources provide a better habitat for predatory insects that can spread out into the crops and reduce pest populations. A "resource concentration" hypothesis suggests that the main crop is harder for the pest species to see, and thus, fewer are attracted to it. A "repellent smell" hypothesis suggests that the non-crop plants (at least certain species) may provide a

chemical-based scent barrier. A "trap crop" is much more attractive to pests than the crop and draws the pests away from the main crop or gets in the way of their normal movement. A "push-pull" strategy uses repellent plant species planted within the main crop plantings to repel a given pest species (the "push"), while using an attractant plant species growing near the margins of the main crop plantings to concurrently attract the pests away from the main crop (the "pull").

She showed data and graphs that clearly indicated that plant diversification often increases the abundance and diversity of wild pollinators, natural enemies, and parasites. However, she also said that "insects are fickle" and may not do what you want them to do. Growers may be deterred from the best strategies to attract beneficial insects due to many practical factors. Some practical considerations may include: limited space, cost, time, effort, and specialized equipment. There also may be more knowledge or expertise needed to practice these specialized strategies. In addition, the species that are best for beneficial insects may interfere with or compete with the main crop(s). Also, there may be environmental limits to growing ideal plants beyond the farmers' ability to control. Sometimes even in optimal conditions these alternative strategies simply do not work.

However, cover crops combine practical considerations with ecosystem services. There are several different types of cover crops. Green manure cover crops are intentionally plowed under before they mature or ripen. Organic mulch cover crops are allowed to grow in place for long periods and gradually add organic matter to the soil (most commonly these are legumes, like soy beans or clovers). Dying mulch cover crops are allowed to mature, die, and decompose in place while the main crop is still growing and maturing. Living mulch cover crops are planted in strips beside the main crop, and concurrently add nutrients to the soil while reducing soil erosion. Flowering living mulch (*e.g.*, red clover) can go a step further by both attracting and providing food (nectar and pollen) for a range of pollinators that, in turn, can increase the pollination of the main crops.

The European Corn Borer (ECB), *Ostrina nubilalis* (Hübner), has been repeatedly reported to severely destroy green bell pepper fruits during their late development. The ECB bore into the fruits consuming the fruit leaving holes and feces. Hanna's research showed that a red clover as living mulch markedly reduced oviposition on bell peppers by ECB females.

Cucumbers are often severely damaged by two important beetle pests in eastern North America. The spotted cucumber beetle, *Diabrotica undecimpunctata howardi* Barber, also called the southern corn rootworm, is a generalist feeder on the roots of a wide range of economically important plants, including cucumbers. Whereas, the striped cucumber beetle, *Acalymma vittatum* (Fabricius), specializes in feeding on cucurbits. Cucumber beetles also spread cucumber wilt virus to young cucumber plants. In Hanna's studies, when cucumbers are planted with red clover as a living mulch there were less spotted cucumber beetles but no significant difference between the number of striped cucumber beetles when compared to monoculture cucumber plots.

The reduction of spotted cucumber beetles may be due the "enemies hypothesis." There were significantly more spiders in the plots with the red clover living mulch than the monoculture cucumber plots. Also past research has shown that if a wolf spider was on a cucumber plant, cucumber beetles would leave that plant or emigrate from the area. In addition, the parasitic Tachinid flies *Celatoria setosa* (Coquillett) and *Celatoria diabroticae* (Shimer) that emerged from the striped and spotted cucumber beetles accordingly. These Tachinid flies are rather difficult species to identify, but Hanna plans to collect more cucumber beetles this summer to determine how prevalent these Tachinid flies are and whether the proportion of parasitized cucumber beetles is affected by the red clover. Hanna plans to pursue research to further delineate the effects of red clover on IPPM and crop productivity.

Respectfully submitted, ***Harold Harlan***

REGUFE SYSTEM BIRTHDAY BASH AND ENVIRONMENTAL FILM FESTIVAL

A Call for Proposals

Saturday, 18 March 2017; 10:00 a.m. to 3:00 p.m.
National Wildlife Visitor Center
Patuxent Research Refuge
10901 Scarlet Tanager Loop
Laurel, MD 20708

Join us for our annual Refuge System Birthday Bash as we celebrate the work of 566 wildlife refuges across the United States and its territories. This year's theme is "Awareness and Action" and we will be sharing ways to help wildlife through crafts, games, educational activities, and the Environmental Film Festival. All ages welcome. All programs are free and registration is not needed.

- Live birds of prey presented by Rodney Stotts
- Free bee box to enhance your own garden (while supplies last)
- Living history docents
- Crafts for kids
- Environmental Film Festival
  See Festival Flyer with show times for films
- The USGS Bee Inventory and Monitoring Lab will have a display table
- Questions? Call (301) 497-5887

ESA 2017 EASTERN BRANCH ANNUAL MEETING

Fri-Tue, 17-21, March 2017
Newport Marriott, Newport, RI

The 88th Annual Meeting of the Eastern Branch of the Entomological Society of America "Challenges in a Changing World" will be held in Rhode Island.

Additional Information can be found at:
http://www.entsoc.org/eastern/2017-eastern-branch-annual-meeting

ENTOMOLOGICAL SOCIETY OF WASHINGTON PUBLIC MEETING

Thu, 6 April 2017; 7:00 p.m.
Topic: TBA
Speaker: TBA
National Museum of Natural History, Smithsonian Institution, Washington, DC
http://entsocwash.org/

Central Maryland Beekeepers Association
Supporting and promoting beekeepers and the viability of honeybees in central Maryland

MEMBERS MEETINGS

Tue, 14 March 2017; 7:00 p.m.
Topic: "**Good News About the Bees**". He will speak about all of the positive news regarding honeybees in a time when most of what we hear seems glum
Speaker: **Dewey Caron**, Ph.D. Professor and Extension Entomologist, University of Delaware

Tue, 4 April, 2017; 7:00 p.m.
Topic: TBA
Speaker: **Peter Borst** of Cornell University

Tuesday, May 2, 2017
Topic: TBA
Speaker: **Hartmut Doebel**, Ph.D. Professor, George Washington University

Members meetings are held at the Oregon Ridge Nature Center, 13555 Beaver Dam Road, Cockeysville, MD.
Additional information can be found at:
http://www.centralmarylandbees.org/meetings-3/membership-meeting-schedule/

AMERICAN ENTOMOLOGICAL SOCIETY PUBLIC MEETING

Wed, 22 March 2017; 7:00 p.m.
Topic: TBA
Speaker: TBA

Wed, 26 April 2017; 7:00 p.m.
Topic: TBA
Speaker: TBA

The Academy of Natural Sciences of Drexel University, Ewell Sale Stewart Library, Second Floor, 1900 Benjamin Franklin Parkway, Philadelphia, Pennsylvania
http://darwin.ansp.org/hosted/aes/mtgSched.htm

GEORGE WASHINGTON UNIVERSITY BIOLOGY SEMINARS

Fri, 24 March 2017; 3:15 p.m.
Topic: **Genomic signatures of social evolution in social insects**
Speaker: **Timothy Linksvayer**, Ph.D. University of Pennsylvania

Fri, 7 April 2017; 3:15 p.m.
Topic: dissertation defense
Speaker: **Thiago da Silva Moreira,** George Washington University

Fri, 14 April, 2017; 3:15 p.m.
Topic: dissertation defense
Speaker: **Robert Kallal**, George Washington University

Science and Engineering Hall B1220 (Lehman Auditorium), George Washington University, 800 22nd St NW, Washington, DC

PATUXENT BIRD CLUB/PRINCE GEORGE'S AUDOBON SOCIETY MEETING

Title: **"Native Bees of Maryland"**
Featured Speaker: **Gene Scarpulla**
Tuesday, 11 April 2017; 7:30 p.m.
College Park Airport Operations Building
1909 Corporal Frank Scott Drive
College Park, MD 20740

MES member Gene Scarpulla is an Associate at the Bee Inventory and Monitoring Laboratory at the Patuxent Wildlife Research Center where he surveys and identifies native bees and wasps. Gene is also the Journal Editor for *Maryland Birdlife* and *The Maryland Entomologist*. Did you know that there are approximately 4000 species of bees in the United States, 800 species east of the Mississippi River, and over 400 species in Maryland? Little is known about the populations of most of these species. In 2009, Gene Scarpulla conducted a yearlong survey of the bees on Hart-Miller Island in the Chesapeake Bay to increase our knowledge of Maryland's bees. Gene will give a brief overview of the history of Hart-Miller Island, describe his year-long survey, discuss general bee biology and identification (bees vs. wasps vs. flies [mimics]), and show the amazing diversity of Maryland's bees.

Additional information can be found at:
http://www.pgaudubon.org/programs.html

UNIVERSITY OF MARYLAND DEPARTMENT OF ENTOMOLOGY COLLOQUIA

Fri, 17 March 2017, 12:00 p.m.
Topic: TBA
Speaker: **Andrew Garavito**, van Engelsdorp Lab, Department of Entomology, University of Maryland College Park

Fri, 24 March 2017, 12:00 p.m.
Topic: **Population ecology of mosquitos in a rapidly changing Arctic**
Speaker: **Lauren Culler**, Ph.D. Arctic Postdoctoral Fellow and Outreach Coordinator, Department of Environmental Studies, Dartmouth University

Fri, 7 April 2017, 12:00 p.m.
Topic: **Getting to know invasive ants**
Speaker: **Margaret Allen**, Ph.D. Research Entomologist, USDA ARS

Fri, 14 April 2017, 12:00 p.m.
Topic: **Insect carcasses link aquatic and terrestrial**

ecosystems: lessons from the subrctic
Speaker: **Claudio Gratton**, Ph.D. Professor, Department of Entomology, University of Wisconsin

Fri, 21 April 2017, 12:00 p.m.
Topic: TBD
Speaker: **Olivia Bernauer**, van Engelsdorp Lab, Department of Entomology, University of Maryland, College Park

Entomology colloquia take place in 1130 Plant Sciences Building, College Park, MD. For additional information, go to: http://entomology.umd.edu/calendar.html.

2016/2017 PROPOSED MES EVENT SCHEDULE

Regular MES lecture/meetings are held at the University of Maryland Baltimore County (UMBC) on the 3rd Friday of each of 6 months coinciding with UMBC's academic year. Proposed events for the upcoming MES membership year are:

Date	Speaker	Topic
Sep 18	Crab Feast/Meet-&-Greet	at J. KING'S Restaurant
Oct 21	Seán Brady	Entomological Collections: New Uses
Nov 18	David O'Brochta	Genetic Technologies
Feb 17	Hanna Kahl	Effects of Living Mulch on Arthropods
Mar 17	Daniel Perez-Gelabert	Entomological Adventures in the Caribbean
Apr 21	Sarah Stellwagen	Spider Glue
May 19	Members' & Students' Presentations & Elections	
TBD	Survey/Field Trip	

OCT 2016-SEP 2017 MES MEMBERSHIP YEAR OFFICERS

President	Frederick Paras
Vice President	Philip J. Kean
Secretary	(vacant)
Treasurer	Edgar A. Cohen, Jr.
Historian	(vacant)
Faculty Sponsors	Frank E. Hanson & Austin P. Platt
Journal Editor	Eugene J. Scarpulla
E-newsletter Editors	Aditi Dubey & Hanna Kahl

SUBMITTAL DEADLINES

APRIL 2017 issue of the ***Phaëton***:
Please send member news items by 7 April 2017.
Send e-newsletter drafts to Aditi at aditid26@gmail.com and/or Hanna at hkahl@umd.edu.
SEPT 2017 issue of ***The Maryland Entomologist***:
Please send first drafts of articles and notes to Gene Scarpulla to ejscarp@comcast.net by 1 April 2017.

SILENT NOON
By Dante Gabriel Rossetti

Your hands lie open in the long fresh grass, --
The finger-points look through like rosy blooms:
Your eyes smile peace. The pasture gleams and glooms
'Neath billowing skies that scatter and amass.
All round our nest, far as the eye can pass,
Are golden kingcup-fields with silver edge
Where the cow-parsley skirts the hawthorn-hedge.
'Tis visible silence, still as the hour-glass.

Deep in the sun-searched growths the dragon-fly
Hangs like a blue thread loosened from the sky: --
So this wing'd hour is dropt to us from above.
Oh! clasp we to our hearts, for deathless dower,
This close-companioned inarticulate hour
When twofold silence was the song of love.