

Phaëton

The Official Newsletter of the
Maryland Entomological Society

EDITOR: Harold J. Harlan
FACULTY SPONSOR: Frank E. Hanson and Austin P. (Bob) Platt
Department of Biological Sciences, UMBC
1000 Hilltop Circle
Baltimore, MD 21250

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Meeting Announcement

The Maryland Entomological Society's 275th regular meeting will be held **Friday, May 21, 2010**; beginning at 8:00 P.M., in **Room 004** (one floor below the street level), Biological Sciences Bldg., University of Maryland, Baltimore County (UMBC). Bring a friend and specimens/observations to share. Refreshments will be provided. Presentations are scheduled to begin about 8:15 P.M.

Speaker: Peter R. Houlihan, Behavioral Biology, Johns Hopkins, University
Title: "The Impacts of Tropical Peatswamp Forest on Butterfly Species Richness and General Biodiversity"

Peter Houlihan is an undergraduate at Johns Hopkins University studying Behavioral Biology. His interests involve ecological analyses of tropical rainforests, most notably focused on Lepidoptera as indicators of biodiversity and species richness. Peter's tropical rainforest experience began in 2005 during a tropical biology field course in Costa Rica. He returned to Costa Rica as a part of another tropical field course in 2007 and later as a group leader in 2008. During his Freshman Winter semester in 2009, Peter furthered his knowledge of tropical ecology and evolution in the Galapagos Islands and Amazon rainforest. Since then, he has been conducting laboratory and field work in soil ecology with Dr. Katalin Szlavecz, studying nutrient cycling by soil invertebrates and CO₂ respiration in the soil.

He returned to the Amazon this past January to study the differences in soil respiration between young and old forest sites. This summer, Peter will be conducting a study through the Smithsonian Tropical Research Institute on the phenotypic and genotypic variations of Nymphalids in biogeographically separate locations of Panama. In the fall, he will study population and community ecology in Tanzania. Tonight Peter will speak about a project he conducted last summer on Indonesian Borneo, studying the effects of forest fragmentation on populations of fruit-feeding Nymphalids. While in Borneo, he was a research assistant on many other projects, including behavioral studies on orangutans and gibbons, camera trap studies monitoring cat populations, and forestry surveys. Peter will continue his studies in Borneo in the summer of 2011 as a team member studying entomology on the BRINCC expedition, surveying the biodiversity of the island's forests on an elevation gradient. Peter plans to graduate with his B.S. in the spring of 2012, then pursue a PhD program in Ecology and Evolutionary Biology.

If you want more information concerning this meeting, contact one of the following people:

Annapolis Area - Harold Harlan (410) 923-0173 (Home) "haroldharlan@comcast.net"
Baltimore Area - Phil Kean (410) 944-4630 (Home)
Fred Paras (410) 374-0425 (Home) "bugandrockman@msn.com"
Bob Platt (Biol. Sci., UMBC x-2261) "platt@umbc.edu"
Frank Hanson (Biol. Sci., UMBC x-2265/-2228) "Hanson@umbc.edu"

Minutes of the April 2010 MES Meeting

The 274th general meeting of the Maryland Entomological Society was held Friday, April 16, 2010 at UMBC and was begun at 8:21 p.m. with a welcome by Fred Paras and then immediately launched into the main program, which is summarized below. The meeting was attended by a large number of students from classes that Fred teaches at Baltimore City Community College. After a period of fine discussion and refreshments, the meeting reconvened with the business segment. The March 2010 meeting minutes were read and approved, and then the treasurer's report was delivered, citing an MES Funds total of \$2364.53. This was an increase of over \$200. since March, 2010, mainly from old and new members' dues. Fred announced that Peter Houlihan would speak at the May meeting. Election of officers for the MES's 2011 fiscal year will also be held at the May meeting. Harold Harlan mentioned that the West Virginia Entomological Society usually meets quarterly in Morgantown, WV, and that they would likely welcome a joint summer field trip or fall meeting with the MES. May 15 was tentatively selected as the date of the MES spring field trip to Green Ridge State Forest in Western Maryland, partly for the purpose of observing Appalachian Tiger Swallowtails there. Fred Paras planned to contact Harry Pavulaan, who has studied this species extensively, to verify that this was the peak time of its emergence, before fixing the field trip date. Fred planned to make a final announcement by e-mail of the date and meeting arrangements for the field trip during the week before the trip. Gene Scarpulla announced that member Marcia Watson has most generously volunteered to establish a new website for the MES, and that Gene would donate to the annual cost, which should be less than \$150. We are most grateful for these generous and supportive offers by Marcia and Gene to enhance the society's public exposure. Marsha and Gene also mentioned the need to initiate the development of a traveling display for the MES, to be shown at public natural history events. Other ideas discussed included establishing a society family membership category and to announce a mailing address for public donations to the society.

The main program for the meeting, titled "Linking Diversity, Sustainability, and Ecosystem Services in Residential Landscapes," was presented by Dr. Michael J. Raupp, entomology professor and renowned extension specialist at the University of Maryland at

College Park. Dr. Raupp emphasized that the goals of landscape sustainability should be to establish and maintain conditions that produce no long-term environmental disturbances, that in no way deplete resources or add pollutants, and that are able to persist with minimal management activity. Factors that are unfortunately pervasive in today's residential landscapes and that reduce sustainability are (1) lack of genetic diversity in introduced plant material, (2) increased invasive species, (3) poor planting design, (4) elevated plant stress, and (5) disruption of communities of natural enemies of pest species. One example of item (1) was the pervasiveness of Variegated Euonymus at fast food restaurants (e.g., MacDonalds). The white portions of the plant's leaves are incapable of photosynthesis, and the plant is attacked by the scale insect *Unaspis euonymii*. Also, many nursery plants are propagated asexually from cuttings, which genetically predisposes the resulting plants to diseases that could annihilate whole populations. The loss of the American chestnut forest (3½ billion trees!) due to chestnut blight by the 1940's is another example of the effect of reduced diversity. In cities, the pervasive American elm has fallen victim to Dutch elm disease. These examples emphasize the importance of diversified plantings. A more recent hard lesson concerns the Emerald Ash Borer (*Agrilus planipennis*), native to Asia and rapidly destructive to American ash plantings. Once the borer appeared in Prince Georges Co., Maryland in 2003 from illegal interstate transport of ash nursery stock from Michigan, eradication efforts that consisted of cutting down all ash trees in a one-half mile circle around recorded infestations were found to be insufficient. Research eventually indicated that the beetle will fly much further distances to find ash trees for oviposition. Massive loss of American ash across the U.S., estimated to be about 80 billion trees and representing about 10.4% of the national tree population, is becoming accepted now as a foregone conclusion. Eradication efforts have been transformed into public education on expected rates of tree destruction and advice regarding alternate plantings. It is unlikely however that ash will completely disappear from the American landscape because the eventual scarcity of ash will limit the borer's ability to maintain its own population levels. Another highly destructive pest, the Asian Longhorned Beetle (*Anoplophora glabripennis*), which is native to China and known to attack poplar, willow, elm, and especially maple, was discovered in

New York City in 1996, in the Chicago, IL area in 1998, and in Worcester, MA in 2008. All of these were again the result of accidental introductions. Eradication efforts are being implemented, but the long-term effectiveness of these is in question too, and there may be a broad-scale loss of maples across the U.S. in addition to American ash. Diversification of trees planted in residential and public areas could have minimized this problem. He presented interesting results about the effects of vegetative complexity and sustainability of tree species. Landscapes with low diversity plantings were found to have a high incidence of pest species whereas complexly planted landscapes had relatively few pests. Pest diversity was found to grow with plant diversity; however, pest population size was found to be lower by a factor of three or more in a complex habitat. Diverse landscapes provide a multitude of prey sources for predatory insects, and thus the predatory species are able to maintain population levels as individual pest species populations wax and wane. Predatory species become more diverse too in such environments, and all of this provides a very effective check on all pest species. Green lacewing (Neuroptera: Chrysopidae) larvae, when present, consume five times more aphids than do mantids. Native plants are also desirable in landscape plantings because with native plants the diversity of native pests and predators will be high, and natural balances between them are more likely to take control in a short period of time. Landscape plantings in heavily paved areas will stress plants, particularly trees; and such plantings will more likely be overtaken by pests. However, plant stress does not always result in greater infestation. Counter to what many horticulturists believe, well fertilized plants are not better able to fight pest infestations. High fertilization levels will boost plant photosynthesis and growth rate. However, as many plants undergo high growth rates, their production of allelo-chemicals, which are the normal plant defenses against pest attacks, markedly declines. Thus, obviously healthy growing plants are actually more likely to become easy nutrition sources for pests. Plants restrained to moderate growth rates and leaf size will therefore require less pest control. Guidelines to increase plant sustainability in residential and commercial landscapes are therefore to: (1) increase plant diversity, (2) select plants carefully to reduce pest susceptibility, (3) plant in favorable soils and surroundings for root growth, proper light conditions, and absence of pollutants, (4) know likely

pests and plant in ways that discourage their growth and spread, and (5) include a variety of plant groups (trees, shrubs, and herbaceous plants) in any landscape plan.

Respectfully submitted,
Richard H. Smith
MES Secretary

Announcements

1. Distributing this newsletter by e-mail saves costs of printing and mailing, and allows rapid distribution of information. Members with no current e-mail address will still be sent hard-copies for the foreseeable future. For questions, please contact any person listed at the bottom of the first page. **Also** please provide your current e-mail address. Dues for 1 Oct. 2010 through 30 Sep. 2011, are still only **\$10.00/year**. Please send dues & any address or other corrections to:

Edgar Cohen, Jr., MES Treasurer Phone" (410) 740-0481
5454 Marsh Hawk Way
Columbia, MD 21045 e-mail: edcohenfam@yahoo.com

2. Regular MES meetings are held the 3rd Friday of each of 6 months each year: Oct., Nov., Feb., Mar., Apr. & May (parallel to UMBC's academic year). The remaining meetings for the 2010 "MES year" include:

<u>month</u>	<u>date</u>	<u>speaker</u> (if known)	<u>topic</u>
May	10 21 st	P. Houlihan	(See Front Page)
			[and - members' "pot-pourri"]

3. As noted in the minutes from the April 2010 MES meeting (above), this newsletter will soon be primarily available via the new MES website. Thanks to the enthusiasm, commitment, & donated time, effort & financial support of Gene Scarpulla & Marcia Watson, that website (including this newsletter) is projected to be up and operational as of October this year. Please continue to support their efforts and the MES, as you have supported the MES (and me) in past. Thanks for your past patience & sharing of news & information.

4. If anyone is looking for something to celebrate, the week of June 20-26, 2010, is National Mosquito Control Awareness Week; the whole month of June, 2010, is Lyme Disease Awareness Month in the U.S., & September 28, 2010, will be Rabies Day in MD.

5. You may want to consider using mosquito repellent and taking actions to eliminate or reduce any breeding of mosquitoes (called source reduction) right around your own home and work site. Three facts may help influence your decision about that. First, the Asian

tiger mosquito, *Aedes albopictus* (Skuse) has become very well established throughout most of eastern and southern North America, and the Asian bush mosquito, *Ochlerotatus* (formerly *Aedes*) *japonicus* (Theobald), has recently spread as far north as Nova Scotia. Both of these species have become peri-domestic biting pests over most of their respective ranges, and both are excellent vectors of several Flaviviruses pathogenic to humans, including EEE, JE, dengue, & WNV. Second, a 19 year old girl, Kelly Labell, died of EEE in 2005, and she undoubtedly was infected by an undetermined local mosquito in southeastern New Hampshire. For more details, go to: www.kellylebell.com. And third, in late summer of 2009, at least 20 locally contracted human cases of dengue were confirmed in Key West, FL, & 41% of 240 people tested had antibodies against dengue circulating in their blood as of mid-November. For more details, go to CDC's website: www.cdc.gov or to: www.news.ufl.edu/11/23/dengue. Incidentally, repellents can also be helpful toward keeping off the locally common ticks that transmit Lyme Disease, *Ixodes scapularis* Say; and Rocky Mountain spotted fever, *Dermacentor variabilis* (Say).

6. The Audubon Naturalist Society (ANS) offers a range of nature events & experiences for all ages. They give practical education in nature to thousands of children each calendar year through special programs for preschool, family, scouts, schools, and camps (currently they are gearing up for summer nature camps) through their 3 wildlife sanctuaries: Woodend, Rust, & Webb. They offer natural history classes, local outings, and national and international travel experiences for adults, too. They work with various civic, environmental and conservation groups on issues related to the watershed, rural lands, & much more. Their website has information & contacts on local & regional nature/conservation issues & youth programs. They offer PDFs of local & regional Nature activities, & you can download the Naturalist News. Some classes, events, & bird walks are free, but most require pre-registration & a fee. For details, or to register, call: (301) 652-9188, ext. 10, or go to the ANS website at: "www.AudubonNaturalist.org".

7. The Maryland DNR website this month has details & schedules for current state nature programs in many parks & recreational areas, including an extensive article on horseshoe crab spawning in our region. They offer a program for school classes to raise, & later release, horseshoe crabs with considerable support

from DNR. There are extensive details, the latest news & links about hunting & fishing regulations, seasons, & advice for outdoorsmen and campers. For more or related information, go to: www.dnr.state.md.us/.

8. The Entomological Society of America (ESA) website: www.entsoc.org offers a lot of basic information about insects & their relatives, & offers materials and ideas for use in youth education & public outreach. It also offers concise & detailed info. about Entomology job opportunities, news, & availability of resources for students & educators, with useful facts, text, images & points of contact.

9. Additional websites worth checking include:

- the USDA website, <http://soils.usda.gov/education>
- the National Aquarium (in Balto.), "www.aqua.org"
- the Maryland Science Center, "www.mdsci.org"
- the U.S. Centers for Disease Control and Prevention (CDC) www.cdc.gov (then search by topic)
- the Jug Bay Nature Center, at Jug Bay, Lothian, MD. at: www.jugbay.org, or call (410) 741-9930.
- the National Zoo, 3001 Conn. Ave., NW, Wash., DC, www.nationalzoo.si.edu or call: (202) 673-4717.

10. You can access details on a very wide variety of topics for central Maryland & DC; from sports, restaurants, special events, & ads, to feature articles of local & regional interest in "**What's Up? Annapolis**" magazine. They even have a live "harbor cam". For a free hard-copy subscription mailed to your home (limited to Annapolis & immediate surrounding areas), or for specific info., contact them at: What's Up?, Inc., 929 West St., Suite 208A, Annapolis, MD 21401; call: (410) 267-9390; or go to: www.whatsupmag.com.

11. Current (SocietyYear 2010) MES Officers

President	Fred Paras
Vice-President	Phil Kean
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Faculty Sponsor	Bob Platt
Journal Editor	Gene Scarpulla
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