

Phaëton

The Official Newsletter of the
Maryland Entomological Society

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FACULTY SPONSOR: Frank E. Hanson and Austin P. (Bob) Platt
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Meeting Announcement

The Maryland Entomological Society's 263rd regular meeting will be held **Friday, May 16, 2008**; 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(s) 1: Dr. Edgar and Joy Cohen

Title: "A Trip to the Colorado Rockies" - June to July 2008.

Joy and Ed Cohen will present images of their trip last summer to the Colorado Springs area of Colorado. Included with some commentary on botany, will be slides of scenery, butterflies and plants of the area, and a few rather attractive moths.

Speaker 2: Dr. Austin Platt - Professor Emeritus, UMBC.

Title: "In the Footsteps of Darwin: A trip to the Galapagos Islands" - December, 2007.

The Galapagos Islands are located about 500 miles off the coast of Ecuador and are famous for their biodiversity, extreme isolation and especially their endemic species.

During a ten-day visit to these volcanic islands Dr. Platt visited 10 major islands, with both morning and afternoon landings each day. He was able to view close up the endemic wildlife for which the islands are so well known, including 12 of the 14 species of "Darwins Finches".

In addition to images of these beautiful islands, he will mention how introduced species along with human interference endanger the unique biodiversity of these fragile ecosystems.

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"
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Minutes of the April 2008 MES Meeting

The 262nd general meeting of the Maryland Entomological Society was held on Friday, April 18, 2008 at UMBC and was begun at 8:25 p.m. The meeting had a large attendance, consisting mainly of students from classes Fred teaches at Baltimore City Community College. The speaker and several attendees had arrived early, and the speaker started some demonstrations and answered questions on the scientific significance of amber before the MES meeting had begun. The meeting opened with a welcome by Fred Paras and moved immediately to the main program, which is summarized below. This was followed by refreshments and discussions and then the business meeting. Faculty Sponsor Dr. Bob Platt presided over the business meeting, as Fred needed to return outside to settle a car problem. The March 2008 meeting minutes were read and approved, and the Treasurer's report was issued. The MES Funds total is now \$2883.57. Treasurer Ed Cohen had received a few back dues payments. He had also recently submitted a new, shortened form (compared to years ago) to the IRS to renew the tax-exempt status of the MES. Gene Scarpulla, who is managing publication of the next issue of the society journal, mentioned that all but two article peer reviews had been returned. The next step will be to secure a printer for the issue and an estimate of printing cost. Dr. Platt verified that all the present society officers would be willing to renew their terms for next year. Officer elections will occur at the May meeting. Displayed items at the meeting included several examples of authentic (prehistoric) amber and also modern artificial look-alikes, all provided by the speaker. The speaker kindly distributed free samples of authentic amber to attendees.

The main program entitled "Amber: Plant Exudates or the Sticky Stuff That Many Plants Ooze," was presented by Dr. Jorge Santiago-Blay, Research Collaborator in the Department of Paleobiology at the National Museum of Natural History, Smithsonian Institution, Washington, DC. The speaker cited several of significant findings about prehistoric life from amber samples, and also from where around the globe one finds significant amber deposits. Amber is a fossil resin, and to qualify as "amber" it is not sufficient for a tree resin merely to harden by losing its volatiles. Instead, the molecules have to polymerize, which can take millions of years (or at least 100,000 years). After polymerization, amber becomes significantly less

soluble in common organic solvents. It will not become sticky if wetted with alcohol, acetone or gasoline. Much of the material marketed as "amber" (especially that from Colombia and Madagascar) is far too young to be considered amber, and is in reality just dried tree resin. Some amber specimens date back to 400 million years. About 25 current and prehistoric orders of insects have been discovered in amber. During the Carboniferous Period at about 300 mya, a fossil of a "Srokalarva" was found in amber. The specimen represents a stage of insect evolution wherein adult specimens had leg development midway between the larval and adult stages of present-day insects which have complete metamorphosis. Gene manipulation techniques applied to present-day insects have been able to reproduce this primitive form, as the master genes that control this trait are still present in current species. Limestone deposits in the western U.S., which derive from areas underwater in prehistoric times (160-150 mya), also contain many fossilized insects. One sample was able to reveal an insect devouring its last meal. Palynomorphs, which are fossil samples of a size between five and 500 micrometers and found in sedimentary rock, are composed of organic material such as chitin, pseudochitin, and sporopollen. These "microfossils" give important clues to the prevailing climatic conditions of the prehistoric time, showing, for example, abundance numbering in millions of cells per gram in organic marine deposits. An American Museum of Natural History expedition to New Jersey uncovered one of the richest deposits of amber ever found, with fossils of 100 unknown species of insects and plants trapped in the fossilized sap. The fossils included the oldest moth in amber (~100 mya), with mouth parts suggesting it was in transition from a biting insect to one that fed on the nectar of flowers. Amber insect fossil samples from China contain representatives of the panorpoid complex, *i.e.*, scorpionflies, caddisflies, and fleas; and these samples are useful in determining the phylogeny of these related species. Siphonate fossils (those with feeding tubes) indicate nectar, pollen, or blood-consuming insects. Amber from Burma, termed "Burmite," is from the Cretaceous period (~100 mya) and has produced a wide variety of both insect and botanical specimens and reveals plant species that were insect-pollinated (or entomophilous). Hypotheses about coevolution and plant-insect morphology however must be critically examined to avoid the so-called Panglossian adaptationist paradigm. For example, the

Mexican cycad *Zamia furfuracea*, is pollinated by a small snout weevil, *Rhopalotria mollis*; and it was thought that the antennal pockets of this species functioned as pollen carriers. However, this theory was debunked when Dr. Santiago-Blay used confocal microscopy to prove that the cycad pollen granules will not fit into the weevil's antennal pockets and that the pockets only contain olfactory receptors. Dr. Santiago-Blay went on to describe his worldwide search for and study of plant exudates. Since such exudates will eventually form amber over a period of hundreds of thousands of years, his collective notes will help to expand and strengthen our understanding of the variety of plant species that have produced and will produce amber. Plant exudates fall under the categories of resins, gums, and latex (actually a milky form of resin). They are produced primarily by plants in the legume, pine, and citrus families. Some plants produce exudates in their roots, and prehistoric subterranean insect life is trapped in them and revealed in the resulting amber. Prehistoric aquatic insect life, such as tubeworms, is also revealed, as resiniferous forests occurred at sea level as well as in upland conditions. Plant exudates are useful to man as coatings to prevent rust; Egyptians used resin to preserve mummies; and copal resin is used as incense in religious ceremonies. Amber samples have been studied by infrared spectroscopy and nuclear magnetic resonance. These results reveal chemical signatures of samples, and the families and genera of amber-producing plants can often be revealed [*e.g.*, Pine (*Pinus*) or Fir (*Abies*)]. Libraries of chemical signatures can be formed from these data to categorize and define the variety of prehistoric forests.

Respectfully submitted,
Richard H. Smith
MES Secretary

Announcements

1. MES Elections, for MES Officers for the coming "Society Year" (*i.e.*, 1 Oct. '08 thru 30 Sept. '09) will be conducted during the business part of the regular MES meeting this Friday, May 16th. The current officers have each expressed their tentative agreement to serve another year, if elected. However, 'new blood' would be welcome and might invigorate the society as a whole. Please consider running for one of the MES officer positions listed below, and please **come to this meeting**, express yourself, and **vote**.

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 2008 "MES year" include:

<u>month</u>	<u>date</u>	<u>speaker</u> (if known)	<u>topic</u>
May 08	16 th	Dr. Ed & Joy Cohen; & Dr. Austin Platt	(See Front Page = members' "pot-pourri")

3. The Entomological Society of Washington (**ESW**) will hold their **Annual Banquet, Thurs., June 12**; at the Tutto Bene Italian Restaurant Bar & Grill, 501 N. Randolph St., Arlington, VA [phone: (703) 522-1005; website: www.tuttobenearlington.com]. This is within walking distance (about 3 blocks) from the Ballston Metro stop on the Orange Line. A reception & dinner start at 6 P.M., with a presentation to begin at 8 P.M. by Dr. Doug Tallamy, Univ. of Delaware, entitled: "Native plants, insects, and the future of biodiversity in suburbia." Cost will be \$30-40 per person (\$25 per student), depending on your menu choice. Please contact the Banquet Coordinator, **Jil Swearingen**, for more details at: **(202) 342-1443 extension 218**, or send her an e-mail message to: "jil_swearingen@nps.gov".

4. The U.S. Centers for Disease Control and Prevention (CDC) recently published some updated information about effective mosquito repellents on their website sub-page about West Nile Virus (go to: www.cdc.gov/ncidod/dvbid/westnile/RepellentUpdates.htm). They list the common and chemical names of 4 active ingredients, including a new "biopesticide repellent," designated IR3535; each of which (they say) can provide protection from the bites of certain known vector mosquito species under certain conditions. They briefly discuss some practical and comparative details, and some limitations, about those products and the use of repellents in general.

5. The XXIIIth International Congress of Entomology, with the theme: "Breaking the barriers," will be held July 6-12, 2008, in Durban, South Africa. It will be sponsored by the Entomological Society of South Africa. For more details or to register, go to: "<http://www.ice2008.org.za>".

6. You can learn about why bees and herbs were important in the United States' colonial period via a presentation from 1 to 4 P.M., Sunday, May 18th, at Hancock's Resolution, Pasadena, **MD**. For more details or directions, call: (410) 255-4048.

7. Distributing this newsletter via e-mail saves costs of printing and mailing, and allows quick distribution of information. Members with no current e-mail address will be sent hard-copies for the foreseeable future. For questions, please contact any person listed at the bottom of the front page. **ALSO** please provide your current e-mail address. Dues for 1 Oct. 2008 through 30 Sep. 2009, are **\$10.00/yr.** 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

8. There will be a “**Café Scientifique**” Fri., May 30th, starting at 7 P.M., at “b. b. Bistro”, 112 Annapolis St., Annapolis, MD. These programs feature scientists or science writers talking about their work and discussing it with any available audience. The program is free, but dinner reservations are encouraged. For more details and reservations, call (410) 990-4646.

9. The Jug Bay Nature Center will offer a program (suggested for home school students) about “**Animal Architecture**”, from 10 A.M. to 1 P.M., Wed., May 21st, at Jug Bay, Lothian, MD. The program will address animals that create complex structures like nests, honeycombs, and webs. Get more details & register at: www.jugbay.org, or call (410) 741-9930.

10. The **Audubon Naturalist Society** (ANS) offers a variety of nature events for all ages. Their “Bloomin’ Birdathon” runs through Sun., May 18th; & they offer numerous summer “camp(s)” & other nature education events. Their website has a lot of information on local & regional conservation issues & about their education outreach program: “Green Kids”. Some classes, events, & bird walks are free, but most require a fee & pre-registration. For details, or to register, call (301) 652-9188 ext. 10, or go to: www.AudubonNaturalist.org.

11. Focus on butterflies, a program wherein 10 pre-registered photographers & their camera equipment, will be invited into the conservatory at Brookside Gardens, Wheaton, MD, 8 - 10 A.M., to take photos before the show opens. The registration fee is \$20, & this event will take place on Saturdays; May 24th & 31st. Go to: www.parkpass.org or call (301) 962-1477.

12. The **Washington Area Butterfly Club** (WABC) is very active in local & regional nature education, observation, & conservation. Their web site features

local & regional opportunities to observe and take part in (especially youth events) natural entomological & biologic observations & hands-on experiences. They also address butterfly gardening, wildlife habitats, & related youth education. It has details on plant sales & “links” to other nature resources. For more details, go to: <http://users.sitestar.net/butterfly/>, or contact Pat Durkin at: (202) 483-7965, or at: “plusultra@aol.com”.

13. The National Public Radio website recently (5/8/08) had an interesting tape (& short text) version of an article about a little-known bat, the European Giant Noctule, *Nyctalus lasiopterus*, describing portions of its biology and habits, and including some digital images. That species of bats has been observed to prey on migrating (small) birds in flight during the Spring and Fall. You might access that article by searching the NPR website: <http://www.npr.org>. I have printed off a hard copy, & would gladly duplicate (an individual copy of) it for anyone interested.

14. Additional websites worth checking include:

- the National Aquarium (in Balto.), “www.aqua.org”
- the Maryland Science Center, “www.mdsci.org”
- the Maryland Dept. of Natural Resources,
“www.dnr.state.md.us”
- the USDA, “www.usda.gov”
- the National Zoo, “www.nationalzoo.si.edu”

15. For current details on a very wide range of topics for central Maryland & DC; like sports, restaurants, special events, & ads, check out the “**What’s Up? Annapolis**” magazine. They include a live “harbor cam”. For a free subscription mailed to your home address (limited to Annapolis & surrounding areas), contact them at: What’s Up?, Inc., 929 West St., Suite 208A, Annapolis, MD 21401; by phone: (410) 267-9390; or via their website: “www.whatsupmag.com”.

Current (2008) MES Officers

President	Fred Paras
Vice-President	Phil Kean
Secretary	Dick Smith
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Faculty Sponsor	Bob Platt
Newsletter Editor	Harold Harlan

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