

Phaëton

The Official Newsletter of the Maryland Entomological Society

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Meeting Announcement

The Maryland Entomological Society's 262nd regular meeting will be held **Friday, April 18**, 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: Dr. Jorge Santiago-Blay, Research Collaborator
Dept. of Paleobiology, National Museum of Natural History
Smithsonian Institution, Washington, DC

Title: "Amber: Plant Exudates or the sticky stuff that many plants ooze "

Jorge Santiago-Blay earned a B.S. in Biology (1974) and an M.S. in Zoology (1985), both from the University of Puerto Rico. He earned an M.A. in Botany (1989) and a Ph.D. in Entomology (1990), both from Univ. of California-Berkeley. He currently holds academic positions at UC-Berkeley, San Francisco State Univ., and the Univ. of Chicago. He is editor of: *Entomology News*, (journal of the American Entomological Society, Philadelphia, PA), co-editor of *Terrestrial Arthropod Reviews*, and has authored or edited several books, most of which are focused on biology of beetles. He has won numerous academic awards and honors.

Fossilized plant resin, or amber, is unique in having exquisitely preserved organisms and some features of their ecology as far back as the Lower Cretaceous (approximately 130-120 millions of years ago). Resins, complex mixtures of carbon-rich molecules generally insoluble in water, have been produced by plants, including the extinct Medullosales, as early as the Carboniferous (approximately 300 Ma). Of all existing plant exudates, including resins, latexes, gums, kinos, and others distributed in scores of vascular plant families and genera, it appears that only resins have survived deep geologic time. Research on these resins and other plant exudates is important because it allows us to understand paleoenvironments and paleoclimates entombed in amber during different intervals in Earth's history, and reconstruct these amberiferous forests. During this presentation, participants will see numerous examples of plant exudates as well as fakes. Also, we will discuss some of the many uses that plant exudates, such as resins, have had throughout history. Dr Santiago-Blay will update the most recent finds on plant exudates, and selected specimens will be displayed.

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 March 2008 MES Meeting

The 261st general meeting of the Maryland Entomological Society was held on Friday, March 21, 2008 at UMBC and was begun at 8:40 p.m. The meeting opened with a welcome by Fred Paras and moved immediately to the main program, summarized below. This was followed by refreshments, discussions, and then the business meeting. The February 2008 meeting minutes were summarized and approved, and the Treasurer's report was read. The MES Funds total was \$2823.67. Ed Cohen had published a society membership list in early February this year, which he sent to members by e-mail. Ed said several members had contacted him thereafter and mentioned that various items in their personal information (address, phone numbers, interests, etc.) were out-of-date or incorrect. Members are urged to inform Ed of such changes, as we do not poll members routinely for such updates. Some members also said their dues status, as cited on the list, was incorrect. Although dues-paid status has been included on mailing labels before, e-mail distribution of the membership list was apparently a very successful alternative way to bring such discrepancies to the attention of affected members and then to the society treasurer or Newsletter editor. A new, abbreviated (compared to former versions) MES membership application form was also circulated for discussion and recommendations at the meeting. A decision was made to list only contact information for the society Treasurer on this form. Gene Scarpulla mentioned that several corrections had been completed in papers to appear in the next issue of *the Maryland Entomologist*, and that these papers had been mailed out recently for peer review. The cost of the next issue of the journal has not yet been determined. Future plans are to issue instructions for authors and to receive manuscripts for publications, both by e-mail. MES Secretary Dick Smith has recently acquired and accumulated all available extra back copies of the society journal, but these are limited in number. He also has paper archives of the society newsletter *Phaëton* going back many years. Members who want back copies of the journal or newsletter should contact Dick. There will be a nominal fee for reproduction for those issues where extras are not available. Displayed collections for examination and discussion at the end of the meeting included: a variety of bee species, provided by the speaker, and wasps, provided by Bob Gardner.

The main program entitled "The Neglected Native Bees of Maryland," was presented by Mr. Sam Droege, Wildlife Biologist with the U.S. Geological Survey, Patuxent Wildlife Research Center, Beltsville, MD. There are at least 30,000 bee species worldwide, about 4000 in North America (3500 named), and about 400 species of native bees in Maryland. High fertilization, mechanization, and strong pesticides in modern agriculture, however, have diminished bee diversity dramatically. Rarer bee species now occur only in barren and abandoned areas. Unfortunately, there is little quantitative data to substantiate the degree of loss. State species lists are being developed, but treatment by state is very lopsided due to the scarcity of bee specialists [e.g., about the same number of bee species known in DE (~190) as in DC despite land area differences]. There is a large collection of about 1000 bee species at Towson University. However, until Sam started working on them in 2002, there had been few extensive collections or inventories of native bees conducted in the area. A baseline is being formed now through Sam's efforts. He has conducted bee surveys in many areas of Maryland. Small bowls of varying colors, filled with soapy water (which traps alighting bees due to lack of surface tension), are used to attract and collect bee samples. White, ultra-violet, and yellow are the best attracting colors (bees are blind to red). Varying scents in the bowl water are not effective. A complete discussion of families and genera, and an exhaustive polychotomous (matrix-like rather than only dichotomous) key for identification for use by the general public, is available at the website: <<http://www.discoverlife.org/20/q?search=Apoidea>> that Sam oversees. The website also includes interactive global maps for each species. Sam also conducts week-long bee identification workshops four times a year. Bees are required for effective pollination of about one-third of all agricultural and native plant species and cultivars. Bee habitats occur in all terrestrial conditions, they operate on a small scale, and bee reserves can be created in very limited areas, such as collections of drilled wooden blocks for mason bees. About 20% of all bees are nest parasites of other bees. A few bee species are carrion-feeders, but all North American species are vegetarian. Most bees overwinter as larvae or adults, often underground [e.g., bumblebees (*Bombus*)]. Many remain dormant, especially plant specialist bees, even as adults, for major parts of seasons, until their respective plant species is in its bloom period. Some desert bees may

remain dormant underground, one to five feet below the surface, for an entire year. There are 26 known non-native bee species, and some include nest parasites (genus, *Coelioxys*). Sam discovered one new introduced bee (*Halictus tectus*) in downtown Philadelphia. Unfortunately, an accidentally introduced European spore-forming (Microsporidian) protozoan *Nosema bombi* has recently (since 2002) decimated some native bumblebees and apparently has extirpated one bumblebee species along the Pacific coast. Sam devoted most of his talk to discussions of the major bee families and genera in the Maryland area. I will only summarize a few of the highlights in these minutes.

Bees are generally divided into two tribes: short-tongued (families: *Andrenidae*, *Colletidae*, and *Halictidae*) and long-tongued (families: *Apidae*, *Megachilidae*, and *Melittidae*). The family *Andrenidae* has about 80-90 species in MD; some are plant specialists, and none can deliver a sting to humans, as their stingers are too short to penetrate our skin. These bees are usually not hairy and often collect pollen from plants that are naturally sticky. The *Halictidae* are the colorful green and blue sweat bees. Many are plant generalists and live eusocially. Among these, the cuckoo bees (*Sphecodes*) are bee nest parasites. The *Dufourea* are specialists on pickerelweed (*Pontederia*); and the *Melitta*, on blueberry (*Vaccinium*). The *Dieunomia* dig into deep sand. The *Colletidae* are the plasterer and masked or yellow-faced bees. The genus *Colletes* forms large-area ground nests, occasionally in residential yards and therefore cause alarm; however, they usually do not sting, even to protect nests. The *Apidae* are the larger bees - bumblebees, carpenter bees (*Xylocopa*), etc. Many of these are plant specialists and make tunnel nests in or on wooden structures. Bumblebees are our only native colonial bees. Species of the genus *Xenoglossa* are specialists on squash. *Cemolobus ipomoeae* and *Melitoma taurea* are specialists on morning glory (*Ipomoea*). The tongue of the latter species is almost as long as its body, which allows it to reach deep into morning glory nectaries. Often the bees' relationship with a plant is only one-way dependent, i.e., the plant can be pollinated by many insects, but the bees that are plant specialists will die off if that plant is removed from the environment. The squash bee (*Preponapis pruinosa*) male will often spend the night in a closed squash blossom. The *Megachilidae* are the leaf-cutter and mason bees. Of these, the *Anthidiellum* are specialists on lamb's ears (*Stachys*). They maintain territories about the plant

and line their nests with hairs from this plant. The metallic blue mason bees (*Osmia*) will make and utilize nests in holes (of the right diameter) drilled in wood. Larvae and pupae of these can be studied or used for demonstration by preparing boards with holes that can be separated lengthwise later, after the bee has deposited eggs in them.

Respectfully submitted,
Richard H. Smith
MES Secretary

Announcements

1. **Earth Day** will be next Tuesday, Apr. 22nd. Many organizations, government agencies & special interest groups will have a variety of local or regional events this weekend (Apr. 19th or 20th). They are too numerous & diverse to list here. For more specifics, please check your local news, the *Whats Up Magazine* website (or hard copy), or the contact information of organizations listed in announcements below. Please **do** participate & support your favorite effort(s).

2. The World Health Organization (WHO) announced recently that World Malaria Day will be next Fri., Apr. 25th, 2008. Malaria causes an estimated 300-500 Million new cases & kills 1-3 Million persons each year. Go to: "<http://rbm.who.int/worldmalaria-day/>".

3. 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:

month	date	speaker (if known)	topic
Apr. 08	18 th	Jorge Santagio-Bley	(See Front Page)
May 08	16 th	TBA	members' "pot-pourri"

4. 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/>".

5. The American Entomological Society will hold their final monthly Spring meeting at 7:30 P.M., Wed., Apr. 23rd, in the Commons Room, the Academy of Natural Sciences, 19th & the Parkway, Phila., PA; with Dr. Gerry Hertel speaking on: "the insects of Africa's forests". Go to: "www.acnatsci.org/hosted/aes", for more details, or call: (215) 561-3978.

6. 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 still 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. 2007 through 30 Sep. 2008, are \$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

7. The National Museum of Natural History (NMNH) still features the paired Nature programs (since Feb. 15th) at 600 Independence Ave., SW, Washington, DC. **“Butterflies and Plants: Partners in Evolution”** is free, and addresses how insects and other animals have co-evolved with plants; and **The Butterfly Pavilion** which is a fee-based (requires tickets) live butterfly experience next to “Partners in Evolution”. The joint exhibits are open 10:00 A.M. – 5:00 P.M. Tickets are \$6.00 – Adults; \$5.50 – Seniors; \$4.50 - children. They can be purchased in advance by phone: (202) 633-4629 or at: www.butterflies.si.edu.

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

9. The **American Institute of Biological Sciences** (AIBS) will hold its annual meeting in the Westin Arlington Gateway Hotel, 801 N. Glebe Road, Arlington, VA; 12-13 May, 2008. Their overall theme will be “Climate, Environment, and Infectious Diseases”. Their featured speakers include several prominent Entomologists who will address such topics as Lyme disease, malaria, and dengue, from a climate or environmental perspective. For more details contact the meeting director (Sue Burk) or her assistants, at: sburk@burkinc.com; or call (703) 790-1745 ext. 14.

10. The **Washington Area Butterfly Club** (WABC) is active in local & regional nature education, observation & conservation. Their web site features butterfly gardening, wildlife habitats, and related youth education. It also has articles, 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”](mailto:plusultra@aol.com).

11. The **Maryland DNR** website this month has a new lay-out. There’s still lots of info. (& ‘links’), but some may be harder to find. Featured are: Arbor Day & tree plantings, state parks, volunteering, camping, reservations, recent fish stocking, & the Health of the Bay. For more details about these, related info., & contact points, go to: “www.dnr.state.md.us”.

12. MES member Dr. John Carroll, w/ USDA, reported in the April ’08 issue, *Agric. Research* magazine (page 23) that a significant proportion of specimens of 2 species of ticks common in this area (Deer & Lone Star Ticks) survived typical warm water laundering and “no-heat” drying.

13. More places / websites worth checking include:
- the National Aquarium (in Balto.), “www.aqua.org”
- the Maryland Science Center, “www.mdsci.org”
- the USDA, “www.usda.gov”
- the National Zoo, “www.nationalzoo.si.edu”

14. 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.whatupmag.com”.

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