

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

March 2008
Volume: 28, Number 4

Meeting Announcement

The Maryland Entomological Society's 261st regular meeting will be held **Friday, March 21, 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: **Sam Droege** – Wildlife Biologist, U.S. Geological Survey, Patuxent Wildlife Research Center, Beltsville, MD.

Title: “**The Neglected Native Bees of Maryland**”

Recently, pollinators have received a lot of attention and they are extremely important in the pollination of agricultural and native plants. However, most of the discussion has been about cultivated, often called “domesticated,” honey bees (and to a lesser extent, bumble bees). Little is known about the region's native bee population. Sam Droege will present general information about the life histories of the roughly 400 species of native bees that exist in this area, where they like to hang out, family and genera characteristics, nesting strategies, conservation, collecting, trapping, and inventory work. He will present evidence about why we can't really say that pollinators are declining or increasing. He will show lots of pictures of native species, a representative collection of pinned specimens, and plenty of stories about his adventures with this interesting group of insects.

Sam earned a B.S. in Biology in 1980 from the University of Maryland, and an M.S. in Wildlife Management in 1985 from SUNY – Syracuse. Most of his career has been spent at USGS Patuxent Wildlife Research Center. He has coordinated the North American Breeding Bird Survey Program, developed the North American Amphibian Monitoring Program, the Bioblitz, and FrogwatchUSA, worked on the design of and evaluation of monitoring programs, and is currently developing an inventory and monitoring program for native bees as well as online identification guides for North American Bees. Further details can be found at: “www.discoverlife.org”.

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 February 2008 MES Meeting

The 260th general meeting of the Maryland Entomological Society was held Friday, February 15, 2008 at UMBC and was begun at 8:45 p.m. The meeting opened with a welcome by Fred Paras and a brief business meeting. The November 2007 meeting minutes were read and approved, and the Treasurer's report was issued. The MES Funds total was \$2735.67; and Ed Cohen is striving to resolve back dues payments with several members. Members have been urged to send dues to Ed Cohen and e-mail addresses to Harold Harlan. Harold, as Newsletter Editor and the responsible person for its circulation, stated that previous members with no record of dues payments for four or more years will no longer be sent the *Phaëton*. Under old business, Gene Scarpulla, who is working on the next issue (Vol. 4, No. 4) of the *Maryland Entomologist*, said that it will be devoted to the insects of Hart-Miller Island and will contain six articles on this subject. Manuscripts will be sent out to reviewers in the coming weeks. Under new business, Dr. Platt indicated that the March MES meeting is currently scheduled to occur on Good Friday and wondered if we should change the date. A discussion ensued on this subject, most attending members foresaw no conflicts, a vote was taken, and the outcome was to retain the date of the March meeting as is. Fred mentioned the spring MES meeting programs and some planned speakers for the following year. He also announced the lineup of early 2008 entomological programs sponsored by the American Entomological Society and presented at their meetings at either the Philadelphia Academy of Natural Sciences or at the Univ. of Delaware. Topics included the Emerald Ash Borer (Feb.), the Brown Marmorated Stink Bug (Mar.), and Insects of Africa's Forests (Apr.) (go to: "<http://www.ansp.org/hosted/aes/mtgSched.htm>" for program announcements). Member Bob Gardner displayed a box of interesting and uncommon beetle species collected in recent years in the Central Atlantic area. Dick Smith brought in the 14 Lepidoptera and local geology books kindly donated to the MES by Dr. William Andersen last fall. These were reviewed after the meeting, and all were bought by various attending members for nominal fees with proceeds going to the MES. The main program followed the announcements and is summarized below. The meeting ended with a period of fine refreshments, honey tasting with option to purchase (see below), and general discussions.

The main program, entitled "The Secret Lives of Bees," was presented by Mr. Steve McDaniel, Master Beekeeper and award-winning freelance nature photographer, who resides locally in Carroll County, MD. There are about 120 Master Beekeepers in the U.S. Mr. McDaniel delighted us with a bounty of detailed knowledge about honeybee natural history during his lecture. He declared the currently popular "Bee Movie" rife with misinformation on bee biology. Strikingly, honeybee drones eviscerate their genitalia into the queen's abdomen during mating and thus drop dead from the air immediately afterwards. Before mating, however, multiple honeybee drones will follow a queen in a formation termed a "bee comet." Drones will seek queens all day but will resolutely restrain their flight to within an invisible boundary near the hive called the "drone configuration area" and return to the hive only at night. The "Colony Collapse Disorder" (CCD) afflicting honeybees nationwide now is leading to an abrupt decline in honeybee numbers, particularly in west coast agricultural areas. However, Mr. McDaniel asserted that such declines have occurred in the past (approximately in 40-year cycles) and is unlikely to be permanent as warned in popular TV documentaries. CCD, a problem in many areas of the U. S., is not documented to have yet appeared in Maryland. Honeybees are essential to the almond crop pollination in California. One box of honeybees, containing around 50,000 bees, is needed to pollinate one acre of almonds with a net worth of \$2400. Thus, hundreds of thousands of bee boxes are used in almond pollination. Rental costs were \$25-\$35 per box; but, with CCD now rampant in that area of the country, boxes now rent for \$150. Mr. McDaniel believes that a significant degree of honeybee decline is due to increased use of neonicotinoid pesticides, a modern artificial form of nicotine and an insect neurotoxin, in agricultural crops. It is applied to crop seed and becomes part of the developing plant tissue and is easily encountered and ingested by bees. It has been found to affect bees' nervous systems and navigation capabilities, rendering them incapable of relocating and returning to their hives. The EPA has issued warnings but not restrictions on neonicotinoid use. Some characteristics of honeybee hives afflicted with CCD are a natural avoidance of the hive by rogue bees for several weeks and a failure of new introduced bee colonies to persist there. Mr. McDaniel mentioned studies showing that 25% of the world's biological resources go to support the human population, so that

intentional biological sterilization processes, such as with neonicotinoids, will likely be something we will live to regret. On other issues of honeybee biology, we learned from Mr. McDaniel about "flower constrained foraging" wherein honeybees will only visit a single species of flower on an outing. If a rogue bee approaches a hive, guard workers will expel an alarm pheromone and expose stingers in a threat display. Africanized honeybees (the so-called "killer bees") are ferocious, but they have less venom and are about 10% smaller than our domestic (European) variety. Except for allergic reactions, it would take the venom delivered by 2500 honeybee stings to reach a lethal level. Honeybees have a notch in their forelegs for antennal cleaning and a leg spindle for starting their pollen ball. Drones have no stingers and are harmless. Queens as well as worker bees can sting; workers have barbed stingers and lose them as well as other abdominal structures in the victim upon stinging and therefore die afterwards. Queens do not have barbed stingers and therefore can sting multiple times without risking death. They usually ignore hive intruders and are only prone to hunt, sting, and kill sister queens. Sister queens fight to the death and sling waste on one another. Workers instinctively clean the deposited waste, immobilize the affected queen, and leave her open to the sting of the opposing queen. Workers die within about 6 weeks. Queens can live 3-4 years, but beekeepers often replace queens every other year. During times of low nectar availability, workers may resort to robbing honey from undefended hives, and also secure sugar from fruits and juices. Queens are often the last to leave a hive during swarming and are often pushed to flight by workers. Honeybee workers start as "house bees" that do hive cleaning. The house bees later become "field bees," and these feed house bees, in addition to bee larvae, on returning to the hive from the field. Worker bees develop ovaries and can actually lay eggs once a queen (and her pheromone) has departed from a hive. However, fertile workers cannot mate, so all of their offspring will be drones. "Smoking" is used by beekeepers to render bees benign during honey harvest. Smoking actually shuts down the worker bee alarm pheromone emission and reaction. Workers who detect smoke shift to drinking honey to preserve it for later, thinking the smoke is from an approaching and potentially destructive forest fire. The flexible honeybee tongue is housed in a rigid sheath folded under the chin; hairs occur on the eyes; antennae protrude from the front of the face.

Honeybee colonies have been known to survive -90°C. Workers maintain high temperatures within a hive. A thermometer has recorded 93 °F. inside a hive and 27 °F. outside. Their hemolymph is copper- rather than iron-based, as in humans. Honeybees, unlike many other insects, are eusocial throughout the year. In January, queens lay eggs for new workers. They can lay up to 5000 eggs a day, applying only four sperm per egg but with 98% successful fertilization. Queens can store active sperm for several years. Queens also drive out drones in January and lay haploid unfertilized eggs that produce new drones. A hive needs about 60 lbs. of honey to last through a winter. The third, fourth, and fifth day of a honeybee's larval life determine whether it's a worker or queen. Maturing queen larvae continue to receive royal jelly during this period. Varroa and tracheal mites have decimated most feral honeybee colonies. The bee louse (*Braula coeca*) can inhabit a hive and appears similar to a varroa mite, but it is nondestructive and only consumes minor quantities of honey. Varroa mites, however, feed on honeybee larvae, pupae, and adult hemolymph. Honey has an amazing "shelf life," as crystallized honey has been retrieved from 3300-year-old Egyptian tombs and still retained a taste of Eucalyptus blossoms (thus, further supporting a link between Egyptian explorers and Australia). Mr. McDaniel provided prints of many of his striking photographs and also many jars of honey from various floral nectar sources for sample tasting and for sale after the meeting.

Respectfully submitted,
Richard H. Smith
MES Secretary

Announcements

1. Distributing this newsletter via e-mail saves costs of printing and mailing, and allows quick information transfer. Members with no current e-mail address will continue to be sent hard-copies for the near future. If you have questions, please contact a person listed at the bottom of the front page, above. **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 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 2008 "MES year" include:

<u>month</u>	<u>date</u>	<u>speaker</u> (if known)	<u>topic</u>
Mar. 08	21 st	Sam Droege	Native Bees of MD
Apr. 08	18 th	Jorge Santagio-Bley	Insects in Amber
May 08	16 th	TBA	members' "pot-pourri"

3. The environmental assessment (EA) for the Catoctin Mountain Park's pending Gypsy Moth Suppression Program is posted for public review at: <http://parkplanning.nps.gov/cato>, according to Sean Denniston, Resource Manager for the park.

4. The National Museum of Natural History (NMNH) offers a pair of Nature programs (open 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. **The Butterfly Pavilion** is a fee-based (tickets required) live butterfly experience adjacent 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.

5. Efforts are currently underway by Gene Scarpulla, Dick Smith, and several others, to collect back issues of the *Maryland Entomologist*, and of the *Phaëton*, and hopefully make individual issues of each of them available for a fee. Although not yet determined, such a fee would have to cover the cost of copying (if needed) and shipment of the requested documents. Tentatively, Dick Smith has agreed act as the point of contact and will maintain the basic set of copies. If (as) individual issues are requested, he can then send available issues or copy reference issues and send them to the requester. This matter is still evolving. A query may be sent out soon requesting donation (or loan) of specific individual (any missing) issues of these items.

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

7. The **Washington Area Butterfly Club (WABC)** is active in local & regional nature education, observation & conservation. Their web site has lots of current information on Lepidoptera, articles, plant sales, & "links" to other nature resources. Their monthly meeting for March will be limited to "current members only" (this meeting not open to the general public, as usual), at 9:15 A.M. Sat., March 29, 2008; at the National Museum of Natural History (NMNH), 10th & Constitution Ave., Washington, DC. Nate Erwin will talk to attendees about the design, construction, & behind the scenes operation of their new exhibit hall. That exhibit is "Butterflies and plants," (see # 4., above). Due to space limits, no more than 30 people can participate (first come, first served). For more, go to: <http://users.sitestar.net/butterfly/>, or contact Pat Durkin at: (202) 483-7965 or at: "plusultra@aol.com".

8. The National Cherry Blossom Festival begins in Washington, **DC**, Sat., Mar. 29th (through Apr. 13th) For details, call the festival hotline: (202) 547-1500.

9. The Maryland Dept. of Agriculture annual Open House, with lots of free family fun, will be held Sat., Mar. 29th, 9 A.M.-3 P.M., rain or shine; at 50 Harry S. Truman Parkway, Annapolis. Call (410) 841-5882.

10. The 19th Annual Patuxent Wildlife Art Show & Sale will be held Sat., March 29th, 9 A.M.-4 P.M. (through Sun., March 30th), at Capitol College, William G. McGowan Academic Center, Laurel, **MD**. It will feature 40 nationally & internationally recognized artists & artisans. Admission is free. For more details, call: (301)497-5789.

11. The American Entomological Society will hold their monthly meeting at 4:00 P.M., Wednesday, March 26th. The meeting will be held in Room 233, at the Univ. of Delaware, Newark Campus. Anne Neilsen, Dept. of Entomology, Rutgers Univ., New Brunswick, NJ, will speak on: "Beating around the bush: the life history of the invasive stink bug, *Halyomorpha halys*, in eastern Pennsylvania." For further details, go to: www.acnatsci.org/hosted/aes, or call: (215) 561-3978. [Their final Spring meeting will be 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 (tentatively)". Contact info. is the same as that given just above.]

12. The **Audubon Naturalist Society** (ANS) offers a wide variety of nature events & experiences for all ages. They are currently featuring the Bloomin' Birdathon: Sat., Apr. 12th through Sun., May 18th. Their website also has lots of information on local and regional conservation issues & their youth education outreach program: "Green Kids". Some of their talks, classes, events, & bird walks are free, but most require a fee & pre-registration. For more details, or if you want to register, call (301) 652-9188 ext. 10, or go to: www.AudubonNaturalist.org.

13. The **Maryland DNR** website this month has lots of information (& related 'links') on maple syrup, state parks, volunteer opportunities, camping reservations, recent fish stocking, the Health of the Bay, and many outdoor activities. There is a public comment opportunity posted regarding the state's Blue Crab Management options for 2008. For more details about these & other monthly features, information, & contact points, go to their web site: "www.dnr.state.md.us".

14. Dr. Arthur V. Evans, a former active MES member, & currently a research associate at the NMNH, forwarded an announcement of his recently published a new book: What's Bugging You? A Fond Look at Animals We Love to Hate. This book is a collection of 50 unforgettable stories about insects & spiders originally published in Art's popular column in the *Richmond Times-Dispatch*. I tried the "link" Dr. Evans provided, but could not reach the book. However, I did find it on: "www.Amazon.com", for about \$17.00 (hardcover). (Ed.)

15. The **National Aquarium**, 501 Pratt St., in Baltimore, MD (at the Inner Harbor) offers youth programs, teacher resources, & educational programs for all ages. They are currently featuring breakfast with the frogs & breakfast with the dolphins. One very interesting bit of information was in their frequently asked questions (FAQs). Under the first subheading: "How can I donate an animal or pet to the Aquarium?" was a concise list of factors for anyone to consider regarding "pets" that are no longer wanted or can no longer be adequately cared for by their owner, including "choosing a pet". **That list should be required reading** for anyone considering getting a pet (especially of any unusual or exotic species). For the Aquarium's operating hours, prices, or more details; or to register for programs or events, call: 410-576-3800, or go to: "<http://www.aqua.org>".

16. The **Maryland Science Center**, 601 Light St., on the Inner Harbor, Baltimore; is currently featuring "Body World" displays (models) of the human body, inside & out, & several more "Touch Wonder" exhibits. Their IMAXTM theater features Sea Monsters (esp. prehistoric ones) & adventure footage of climbing a very dangerous peak (the Eiger) in the Alps. They have many more youth (& some group) events scheduled, too. For more details, times, or to register, go to: "www.mdsci.org", or call (410) 685-5225.

17. The **National Zoological Park**, 3001 Connecticut Ave., NW, Washington, DC, displays a wide range of species (>2,000 animals of about 400 spp.) for free; from giant pandas, to insects, some are on "live" web cameras. Their "**Zoo in Your Backyard**" program currently offers the public a chance to participate in a local/ regional butterfly survey. Their web site has many interesting research articles, related images & "links" to other resources. You can help by joining the Friends of the National Zoo (FONZ). For more, go to: www.nationalzoo.si.edu or call: (202) 673-4717.

18. The **American Microscopical Society** is currently trying to recruit new members via the internet. If you, or a friend, are interested, check out their web site: "<http://dmmsclick.wiley.com/opentrack.asp?messageid=9702&subscriberid=4548932>". (I tried this but could not get the site to open properly.) Alternatively, you might send an inquiry to: "e-news@wiley.com".

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
Treasurer	Ed Cohen
Historian	Bob Bryant
Faculty Sponsor	Bob Platt
Newsletter Editor	Harold Harlan

Printed on recycled paper