



Phaëton

The Official Newsletter of the
Maryland Entomological Society

Volume 32, Number 1

October 2011

EDITOR: **Eugene J. Scarpulla** – ejscarp@comcast.net
FACULTY SPONSORS: **Frank E. Hanson** and **Austin P. (Bob) Platt**
Department of Biological Sciences
University of Maryland Baltimore County (UMBC)
1000 Hilltop Circle
Baltimore, MD 21250

Meeting Announcement

The Maryland Entomological Society's 282nd regular meeting will be held **Friday, October 21, 2011**, at **8:00 p.m.**, in **Room 004** (one floor below the street level), **Biological Sciences Building**, University of Maryland Baltimore County (UMBC). Bring a friend and specimens, observations and books to share. Refreshments will be provided. Presentations are scheduled to begin at 8:15 p.m.

Speaker: **Floyd W. Shockley, Ph.D.** – **Museum Technician: Collections Management**
Department of Entomology, Smithsonian Institution, National Museum of Natural History, Washington, DC

Title: **“Insects and Other Arthropods in Human Culture and Mythology”**

Insects and arthropods appear in the earliest writings of every human culture on Earth. Throughout recorded history, insects have exerted a continuous, profound influence on humans through their cohabitation with us and as competition for food, especially after the emergence of modern agriculture. The various impacts that insects have had on humans often resulted in their depiction in the oral and written traditions of each of these different cultures and religions as deities, signs, harbingers or as metaphors for natural processes. This talk will provide a general survey of insects and arthropods in human history, culture, and mythology, including Far Eastern, Middle Eastern, European and Native American traditions.

Dr. Shockley received his B.S. in Biology from Westminster College in Fulton, Missouri. He went on for his M.S. degree in Entomology at the University of Missouri, studying insect behavior, insect-plant interactions and host plant resistance. While there, he discovered his interest for insect systematics, morphology and natural history. He then went to the University of Georgia (UGA) for his Ph.D. in Entomology, specializing in beetle systematics and evolution. After graduating in August 2009, he was granted the status of Adjunct Assistant Professor so that he could teach courses at UGA, including “Entomology for Teachers” and “Integrated Pest Management.”

In October 2010, Dr. Shockley joined the Collections Management staff in the Department of Entomology at the Smithsonian Institution National Museum of Natural History. To date, he has published 2 book chapters, 24 journal articles, and 11 electronic publications; presented 44 times at scientific meetings; and performed more than 50 outreach presentations at schools and special events. Currently, he serves as a subject editor for Coleoptera for the journals *Insecta Mundi*, *Pan-Pacific Entomologist* and *Zootaxa*, and he is a curator/contributor for the Tree of Life web project, the Encyclopedia of Life project, and several other web-based resources.

Meet for Dinner before the Lecture

If you are interested in meeting for dinner before the lecture, you are invited to join the guest speaker and your fellow MES members at **Kibby’s Restaurant and Lounge**, “Home of Baltimore’s Best Shrimp Salad Sandwich.” Kibby’s is located inside the Baltimore Beltway at 3450 Wilkins Avenue, just 15 minutes from UMBC.

For more information concerning this meeting, please contact one of the following people:

Annapolis Area:	Harold Harlan	(410) 923-0173 (Home)	haroldharlan@comcast.net
Baltimore Area:	Fred Paras	(410) 374-0425 (Home)	bugandrockman@msn.com
	Phil Kean	(410) 944-4630 (Home)	
	Frank Hanson	(410) 455-2265 (Biological Sciences, UMBC)	hanson@umbc.edu
Bowie Area:	Gene Scarpulla	(301) 464-3170 (Home)	ejscarp@comcast.net
Southern MD:	Bob Platt	(410) 586-8750 (Home)	platt@umbc.edu

13 MAY 2011 MES MEETING MINUTES

The 281st general meeting of the Maryland Entomological Society was held on Friday, 13 May 2011 at UMBC and began at 8:40 p.m. with a welcome by President **Fred Paras** and a demonstration of collected Lepidoptera from Puerto Rico, the Dominican Republic, and Panama. Due to the long main program with three MES speakers, these presentations were delivered as the first order of business; and they are summarized below. After the main program, informal discussions and refreshments, the Society's business meeting was convened. April business minutes were read and approved, and the Treasurer's report was delivered, citing a current MES funds total of \$2378.74. Fred confirmed the MES field trip to Spruce Knob, WV to be held on June 11, 2011 (rain date June 12) and led by MES member **Harry Pavulaan**. The main order of business for the evening was the election of MES officers for next year. All current officers were re-nominated for additional terms; no competing nominations were brought forth; a vote was taken, and the current slate of officers was re-elected unanimously by the attending members. MES member **Mike Turell** announced a camping trip during the weekend of June 18-19 near Washington Monument State Park for his 4-H entomology group from Frederick, MD. Mike also offered to arrange an MES meeting next fiscal year at the APHIS training center in Frederick, MD. Finally, he distributed colorful natural history T-shirts that members had ordered at a previous meeting. Finally, MES member **Frank Hanson** announced that the Penn State Insect Fair will be held again in late September this year, and MES members are again encouraged to show exhibits at this event. MES member **Peter Houlihan** was the first speaker, and several of his butterfly specimens from Gamboa, Panama were on display. Peter was planning to leave on the Barito River Initiative for Nature Conservation and Communities (BRINCC) expedition to Borneo (Indonesia and Malaysia) later in 2011. For his monumental and inspiring research in this remote area of the world, the MES awarded Peter an original volume of Bernard D'Abbrera's *Butterflies of the Oriental Region*.

Respectfully submitted, **Richard H. Smith**, MES Secretary

13 MAY 2011 MES LECTURES

"Island Biogeography of Tropical Butterflies: phenotypic and genetic variation of a previously unstudied island in Panama" – Speaker: Peter R. Houlihan, Department of Behavioral Biology, The Johns Hopkins University, Baltimore, MD

MES member **Peter Houlihan** indicated that the main purpose of his trip to Panama was to determine if there was any phenotypic and/or genetic divergence between selected mainland species of butterflies in the vicinity of Gamboa in central Panama and those from Isla del Rey, an island 70 km

off Panama's Pacific coastline. Peter first visited the Smithsonian Tropical Research Institute at Barro Colorado Island near the midpoint of the Panama Canal. This was a large facility with 38 staff and ~200 visiting scientists each year. The Gamboa area on the eastern shore of the canal offered expanses of lowland tropical rainforest and included a convenient access route, the Pipeline Road, which is a famous birdwatching destination in Panama. Peter obtained butterfly specimens, particularly Heliconians and swallowtails (*Parides* spp.) by hanging fruit-baited traps and by hand-netting. Isla del Rey is the largest island (~74,000 acres) in Las Perlas Archipelago. Peter found that the island forests were drier and more disturbed than in Gamboa. The main town there, San Miguel, had a population of <500. Drug trafficking was an obvious problem there, and townspeople appeared hostile to visitors, so Peter mostly camped and avoided interaction. The island's butterflies were extensively sampled both along beaches and inland. For DNA analysis, Peter sent photographs of specimens and samples of legs to the Canadian Barcode of Life Network, Biodiversity Institute of Ontario, Department of Integrative Biology, University of Guelph, Guelph, Ontario, Canada. Mitochondrial DNA of the CL-1 gene, with ~650 base pairs, was typically studied for Lepidoptera phylogenetic relationships. Unfortunately, for the species which Peter could obtain sufficient samples from both locations (particularly, Transandean Cattleheart, *Parides iphidamas*), the molecular data did not indicate significant genetic divergence (only 2%) between mainland and island populations. This was a large species capable of distant flight, and thus strays to and from the island were apparently frequent enough to prevent divergence. A less mobile and potentially divergent species, Doris Longwing (*Heliconius doris*), was common on the Panamanian mainland; but unfortunately non-existent on the island. Peter did discover that the butterfly communities on the island have a very different composition than those in Gamboa. Differences in mainland-to-island phenotypes were also evident. Due to evident habitat modifications and the presence of different forest types and host plants on the island, the island's butterfly populations were found occupying niches that notably contrasted with those on the mainland. Peter is still studying his data to see how well the butterfly species diversity in the two locations fits the diversity vs. mainland and island land-area biotic models. Peter showed several slides of interesting animals he encountered in Panama including birds: Lineated Woodpecker (*Dryocopus lineatus*) and motmot sp. (Momotidae); and mammals: Capybara (*Hydrochoerus hydrochaeris*), Jaguar (*Panthera onca*) and Puma (*Puma concolor*).

"Trips to Florida and Pennsylvania – 2010" – Speakers: Joy A. Cohen and Edgar A. Cohen, Jr., Columbia, MD

MES members **Joy and Edgar Cohen** presented slides of a large number of interesting plants, insects, and other animals that they encountered during their trips to Florida and

northern Pennsylvania in 2010. Areas visited in Florida included Sea World (Orlando), Palm Beach, Withlacoochee State Forest in west central Florida, Flamingo Gardens and other stops in Davie, Sugarloaf Key, and the towns of Homestead, Florida City, and Plantation. Some interesting and beautiful plants included White Bird of Paradise tree (*Strelitzia nicolai*) and Fountain Bush (*Russelia equisetiformis*) at Sea World, Scrambled Egg Tree (*Senna rattensis*) in Palm Beach, Rougeplant (*Rivina humilis*) at Long Key Nature Center in Davie, Apple Blossom Cassia (*Cassia javanica*) in Homestead, Rainbow Eucalyptus (*Eucalyptus deglupta*) near Florida City, Madagascar Jasmine (*Stephanotis floribunda*) at Sugar Loaf Key, Travellers Palm (*Ravenala madagascariensis*) at Stock Island, and Surinam Cherry (*Eugenia uniflora*) at Plantation. Palamedes (*Papilio palamedes*) and Pipevine (*Battus philenor*) Swallowtails as well as Large Orange Sulphur (*Phoebis agarithe*) and Zebra Butterfly (*Heliconius charitonius*) were encountered in their travels. Swallow-tailed Kite (*Elanoides forficatus*) (hawk) and Ruddy Daggerwing butterfly (*Marpesia petreus*) were at Flamingo Gardens, and Green Iguanas (*Iguana iguana*) were at Sugarloaf Key. Joy's photos included the amazing wooden Bat Tower of Lower Sugarloaf Key. It was built in 1929 by a fish lodge owner to control the mosquito problem in the Lower Keys. However, when bats were introduced in the tower, they reportedly flew away and never returned. The Cohens' pictures from Pennsylvania were taken at Gaines in Tioga County along Lick Run Road. Queen of the Prairie (*Filipendula rubra*) and Tansy (*Tanacetum vulgare*) flowers are found there as well as White Admiral (*Limenitis arthemis arthemis*) butterflies.

**"Revisiting Southern and Western Puerto Rico" –
Speaker: Frederick Paras, CMES Department,
Baltimore City Community College, Baltimore, MD**

MES President Fred Paras presented slides of southern and western coastal areas of Puerto Rico where he grew up and where he revisited in 2010 with his wife Linda and daughter Evie Marie. The southern coastal region of Puerto Rico consists of dry limestone forest. A natural area visited there was the Guanica Forest Reserve. Here, Fred found the Dingy Purple Wing butterfly (*Eunica monima*), which were in unusually high numbers. Additionally there were many Nymphalids including the Florida Leafwing (*Anaea troglodyta*) and the Ruddy Daggerwing (*Marpesia petreus*). This coastal forest is the preferred habitat of the Schaus' Swallowtail (*Papilio aristodemus*) and numerous Pierids, all of which were observed during a short but sweltering hike. In southwestern Puerto Rico is El Combate Beach and also salt lagoons famous for birdwatching. On the ocean side opposite the salt lagoons is the Cabo Rojo lighthouse overlooking an open brushy hillside. Here, Fred found a large colony of the uncommon Bartram's Hairstreak (*Strymon acis bartrami*). The larvae of this butterfly feed on the Grannybush (*Croton linearis*). On the beach below the

lighthouse Fred found and photographed some Ameiva (*Ameiva* spp.) ground lizards occupied in unusual feeding activity – feasting on bits of bread and cheddar cheese. On another day trip into the southwest mountain region, Fred explored the Susua State Forest, a serpentine soil habitat area approximately two hours from Mayaguez. The rich hardscrabble biome here notably supports mahogany forests and many species of orchids, bromeliads, and rare plants. It is a location where one can see the uncommon Two-spotted Prepona subspecies *Archaeoprepona demophoon insulicola* and also the Puerto Rican endemic Antillean Sister (*Adelpha gelania arecosa*) butterflies with some regularity. Other Nymphalids seen commonly in these locales are the Pale Cracker (*Hamadryas amphichloe*), which has the interesting behavior of resting with wings spread flat against trees for camouflage, and the striking red and black Red Rim butterfly (*Biblis hyperia*). Furthermore, the hikes in this state forest have many beautiful scenic views. Fred also visited the grounds of the old Puerto Rico Nuclear Center at Mayaguez on the west coast where his father formerly worked for the US Atomic Energy Commission (AEC). Still found on the grounds here were two Cannonball Trees (*Couropita guianensis*) which intrigued him as a child in the mid 1960s. The tall tree produces, from stalks on its trunk, large spherical and woody, foul-smelling fruits that are from 15-28 cm (6-11 inches) in diameter. Further north at Rincon is the site of the Puerto Rican Nuclear Dome, an early experimental form of nuclear reactor and power plant left over from the early AEC days. Overall, the southern and southwestern regions of Puerto Rico are the best areas in this U.S. territory for observing numerous and unusual butterflies due to the comparatively drier environments there.

Respectfully submitted, **Richard H. Smith**, MES Secretary

WELCOME TO NEW MEMBERS OF MES

MES welcomes the following new members to the Society:

Jason P. W. Hall	Washington, DC
Paul H. (Kip) Keenan	Perry Hall, MD
William L. Murphy	Fishers, IN
Frances B. Pope	Mt. Lake Park, MD
Leo H. Shapiro	College Park, MD
Gaye L. Williams	Annapolis, MD

HONORING MEMBER DONORS

MES wishes to honor these members who made charitable donations along with their recent membership renewals.

George M. Jett
Stephanie L. Mason
Richard G. Robbins
Douglas W. S. Sutherland
Gaye L. Williams

UPDATING THE LIST OF PEER REVIEWERS

The Maryland Entomologist is updating its list of peer reviewers for the annual journal. If you would be willing to review an article for the annual journal, please e-mail your name and entomological specialty to ejscarp@comcast.net. Reviewers have the option to be named in the article's acknowledgements or to remain anonymous. Peer reviewers greatly enhance the quality of the articles found in *The Maryland Entomologist* and are an integral part of the publication process. MES heartily thanks all of its current, past and future reviewers.

BORNEO EXPEDITION

MES member **Peter R. Houlihan**, Behavioral Biology undergraduate at The Johns Hopkins University, has returned from his summer in Borneo with the Barito River Initiative for Nature Conservation and Communities (BRINCC) Expedition. You can follow stories from the field and the latest research developments on the BRINCC blog: <http://brinccexpedition.blogspot.com/>

REQUEST FOR BUPRESTID ASSISTANCE

The Maryland Department of Agriculture (MDA), while conducting Emerald Ash Borer, *Agrilus planipennis* Fairmaire (Coleoptera: Buprestidae), survey work utilizing purple and green sticky traps, has accumulated many plastic bags of sticky-trap, ooze-covered buprestids and other common things. (The common solvent is citrus oil.) If you would like to clean, identify and list (by trap number) for MDA, the species collected, you can keep any duplicates, as long as MDA gets named vouchers for their collection. These vouchers would list you as the determiner.

Data is available for all trap numbers. There is approximately one Styrofoam cooler's worth of material from 2011 and the same for 2010. Your payment would be 'a generous portion of thanks' and 'satisfaction,' with perhaps a 'smattering of useable specimens.' If interested, contact MES member **Gaye L. Williams** at williagl@mda.state.md.us

(Editor's Note: This is an excellent opportunity for an interested collaborator to participate in a scientific study and then to submit an article/note for *The Maryland Entomologist*.)

CSI GARDEN PESTS

MES member **Michael J. Raupp** stars in an educational and entertaining video entitled "*CSI: Garden Pests*." Mike is a Professor in the University of Maryland Department of Entomology and is an Extension Specialist for ornamental horticulture and Integrated Pest Management (IPM). The video was produced by the University of Maryland Extension and is a take-off on "*CSI: Miami*." In the video, Mike shows how to identify insect pests in your vegetable garden by looking at the clues that the insects leave in their

wake. As always, Mike combines information with humor to educate the general public. The video can be viewed at: http://www.youtube.com/watch?v=1rJeen4huv4&feature=player_embedded

LICHENS, AND FUNGI AND SLIME MOLDS – OH MY!!!

Two local natural history publications have recently been created online. MES member **Richard L. Orr** has written *Lichens of Howard County, MD* (Version One, 2011). The 30-page booklet (1 MB) contains a key, as well as photographs and detailed information about 24 crustose, foliose and fruticose lichen species. The booklet can be downloaded at: <http://howardbirds.org/pdf/hocolichen.pdf>

MES members **Robert P. and Joanne K. Solem** have written *Fungi and Slime Molds of Howard County, MD* (Version Two, 2011). This 429-page book is massive (41 MB) and covers gilled fungi, fleshy pore fungi, polypores, other fungi and slime molds. There is a bounty of photographs accompanied by detailed text. The complete book version can be downloaded at <http://howardbirds.org/pdf/hocofungi-PC.pdf>. (The authors advise that the download does not work well with Firefox 4.0.) A smaller version (16 MB) for your smart phone is available at <http://howardbirds.org/pdf/hocofungi-phone.pdf>

2011/2012 PROPOSED MEETING SCHEDULE

Regular MES meetings are held the 3rd Friday of each of 6 months coinciding with UMBC's academic year. Proposed meetings for the current MES membership year are:

Date	Speaker	Topic
Oct 21	Floyd Shockley	Insects in Human Culture/Mythology
Nov 18	Michael Turrell	West Nile Virus & Mosquito Hosts
Feb 17	TBA	
Mar 16	TBA	
Apr 20	TBA	
May 18	Members'	"Potpourri" Presentations & Elections

2012 SOCIETY YEAR MES OFFICERS

President	Frederick Paras
Vice-President	Philip J. Kean
Secretary	Richard H. Smith
Treasurer	Edgar A. Cohen, Jr.
Historian	Robert S. Bryant
Faculty Sponsors	Frank E. Hanson & Austin P. Platt
Publications Editor	Eugene J. Scarpulla

SUBMITTAL DEADLINES

NOV 2011 issue of the *Phaëton*:

Please send member news items by 4 November 2011.

SEP 2012 issue of *The Maryland Entomologist*:

Please send first drafts of articles and notes by 1 April 2012.

Send drafts for both publications to ejscarp@comcast.net.

Maryland Entomological Society Lecture & Field Trip to Observe Appalachian Tiger Swallowtails Spruce Knob/East Overlook/Seneca Creek Trail Meadow, Pendleton County, WV

Lecturer and Field Trip Leader: Harry Pavulaan (species co-author)

11 June 2011; 1000-1745 hours

1000-1130 partly cloudy 70° F.; 1130-1300 rain 62° F.; 1300-1745 sunny, 80° F.

Observers: Phil Kean, Evie Marie Paras, Fred Paras, Harry Pavulaan, Sandra Pavulaan, Fran Pope, Gene Scarpulla, Connie Skipper, Marcia Watson

MES member Harry Pavulaan gave an informal presentation about the history and identification of Appalachian Tiger Swallowtails, *Papilio appalachiensis*, a "new species" evolved through hybrid introgression. Harry, along with species co-author David Wright, first described this species in 2002. At the meeting site, Harry showed mounted specimens of *P. appalachiensis*, as well as its two parental species, Eastern Tiger Swallowtail, *P. glaucus*, and Canadian Tiger Swallowtail, *P. canadensis*. Both Appalachian Tiger and Eastern Tiger Swallowtails were observed in the field. Harry also explained how to identify the four species of azures that were in flight at the time: Spring Azure (*Celastrina ladon*), Summer Azure (*C. neglecta*), Appalachian Azure (*C. neglectamajor*), and Northern Azure (*C. lucia*). As a bonus, participants observed the disjunct West Virginia population of Common Ringlet (*Coenonympha tullia*), a New England species.

ORDER COLEOPTERA: Beetles

Family Chrysomelidae: Leaf Beetles

Calligrapha sp. – a leaf beetle

Odontota dorsalis – Locust Leaf Miner

Family Cerambycidae: Long-horned Beetles

Desmocerus palliatus – Elderberry Borer

Stenocorus vittiger – a lepturine beetle

ORDER NEUROPTERA: Nerve-winged Insects

Family Corydalidae: Alderflies, Fishflies

Nigronia sp. – a fishfly

ORDER LEPIDOPTERA: True Butterflies, Skippers, Moths

Family Papilionidae: Swallowtails

Battus philenor – Pipevine Swallowtail

Eurytides marcellus – Zebra Swallowtail

Papilio glaucus – Eastern Tiger Swallowtail

Papilio appalachiensis – Appalachian Tiger Swallowtail (♂ and ♀)

Family Pieridae: Whites and Yellows

Pieris rapae – Cabbage White

Colias philodice – Clouded Sulphur

Colias eurytheme – Orange Sulphur

Colius interior – Pink-edged Sulphur

Family Lycaenidae: Gossamer Wings

Strymon melinus – Gray Hairstreak

Celastrina ladon – Spring Azure

Celastrina neglecta – Summer Azure

Celastrina neglectamajor – Appalachian Azure

Celastrina lucia – Northern Azure

Family Nymphalidae: Brush-footed Butterflies

Speyeria cybele – Great Spangled Fritillary

Chlosyne harrisii – Harris' Checkerspot

Phyciodes tharos – Pearl Crescent

Polygonia comma – Eastern Comma

Nymphalis antiopa – Mourning Cloak

Vanessa virginiensis – American Lady

Vanessa atalanta – Red Admiral

Coenonympha tullia – Common Ringlet

Danaus plexippus – Monarch

Family Hesperidae: Skippers

Epargyreus clarus – Silver-spotted Skipper

Erynnis icelus – Dreamy Duskywing

Erynnis juvenalis – Juvenal's Duskywing

Thymelicus lineola – European Skipper

Hesperia sassacus – Indian Skipper

Polites peckius – Peck's Skipper

Polites mystic – Long Dash

Wallengrenia egeremet – Northern Broken-Dash

Poanes hobomok – Hobomok Skipper

Family Lasiocampidae: Tent Caterpillar and Lappet Moths

Malacosoma americanum – Eastern Tent Caterpillar Moth (tents)

ORDER DIPTERA: Gnats, Midges, Mosquitoes, True Flies

Family Rhagionidae: Snipe Flies

Chrysopilus thoracicus – Golden-backed Snipe Fly

ORDER HYMENOPTERA: Velvet Ants, Ants, Wasps, Bees

Family Apidae: Honey Bees, Bumblebees, Carpenter Bees

Apis mellifera – Honey Bee

APPALACHIAN TIGER SWALLOWTAIL, *Papilio appalachiensis* (Pavulaan and D. Wright, 2002), LINKS TO ADDITIONAL REFERENCES

Pavulaan, H., and D. M. Wright. 2002. [Pterourus appalachiensis](#) (Papilionidae: Papilioninae), a new swallowtail butterfly from the Appalachian region of the United States. *The Taxonomic Report of the International Lepidoptera Survey* 3(7): 1-20.

Pavulaan, H., and D. M. Wright. 2004. [Discovery of a black female form of Pterourus appalachiensis](#) (Papilionidae: Papilioninae) and additional observations of the species in West Virginia. *The Taxonomic Report of the International Lepidoptera Survey* 6(1): 1-10.

Scriber, J. M., and G. J. Ording. 2005. [Ecological speciation without host plant specialization; possible origins of a recently described cryptic Papilio species](#). *Entomologia Experimentalis et Applicata* 115: 247-263.

Ordin, G. J. 2008. [An Analysis of Climate Induced Hybrid Speciation in Tiger Swallowtail Butterflies \(Papilio\)](#). A Ph.D. dissertation submitted to Michigan State University, Department of Entomology. 177 pp.

Kunte, K., C. Shea, M. L. Aardema, J. M. Scriber, T. Juenger, L. E. Gilbert, and M. R. Kronforst. 2011. [Sex chromosome mosaicism and hybrid speciation among tiger swallowtail butterflies](#). *PLoS Genetics* 7(9): e1002274.

2011 Northeast Regional Meeting of the Dragonfly Society of the Americas**Delmarva Peninsula – Dover, Kent County, Delaware**

Thursday-Sunday, 14-17 July 2011

The meeting's Organizing Committee was composed of Hal White (University of Delaware), Kitt Heckscher (Delaware State University), Jim White (Delaware Nature Society), and Jim McCann (Maryland Division of Natural Resources).

Seven MES members attended the four-day event: Jen Frye, Richard Orr, Gene Scarpulla, Bob Solem, Jo Solem, Marcia Watson, and Hal White.

Days were spent in the field visiting some of the Delmarva Peninsula's premier odonate habitats. These included the Idylwild Wildlife Management Area (Caroline County, MD), the upper Choptank River (Caroline County, MD), the Nassawango Creek and Pocomoke River watershed (Worcester and Wicomico Counties, MD), and the Delaware Bay tidal marshes (Kent and Sussex Counties, DE). All told, 69 odonate species were observed in the field.

Evening events included a seafood dinner at The Boondocks (Smyrna, DE); an evening of presentations at Delaware State University (Dover, DE); and a cookout at the Abbott's Mill Nature Center (Milford, DE). The informative evening presentations were entitled "Evolution of the Bluet (*Enallagma*) Genus of Damselflies" (Melissa Callahan, Dartmouth College), "Rock with Dave and the Tiger Spiketails" (Mike May, Rutgers University), "The Possible Hybridization between *Macromia illinoensis* and *Macromia georgina*" (Liz Ballare, Rutgers University), and "Odonata of the Delmarva Peninsula" (Hal White, University of Delaware). Hal White's recently released book, *Natural History of Delmarva Dragonflies and Damselflies: essays of a lifelong observer* (University of Delaware Press), was available for sale and signed by the author.

ORDER ODONATA: Dragonflies and Damselflies**Suborder Anisoptera: Dragonflies****Family Aeshnidae: Darners***Anax junius* – Common Green Darner**Anax longipes* – Comet Darner**Boyeria vinosa* – Fawn Darner (exuviae only)*Epiaeschna heros* – Swamp Darner*Nasiaeschna pentacantha* – Cyrano Darner**Family Gomphidae: Clubtails***Dromogomphus spinosus* – Black-shouldered Spinyleg*Hagenius brevistylus* – Dragonhunter*Progomphus obscurus* – Common Sanddragon**Family Cordulegasteridae***Cordulegaster erronea* – Tiger Spiketail^**Family Macromiidae: Cruisers***Macromia illinoensis georgina* – Georgia River Cruiser*Macromia taeniolata* – Royal River Cruiser***Family Corduliidae: Emeralds***Epiheca cynosura* – Common Baskettail (exuviae only)*Epiheca princeps* – Prince Baskettail*Neurocordulia obsoleta* – Umber Shadowdragon (exuviae only)*Somatochlora filosa* – Fine-lined Emerald*Somatochlora georgiana* – Coppery Emerald*Somatochlora linearis* – Mocha Emerald**Family Libellulidae: Pennants***Brachymesia gravida* – Four-spotted Pennant*Celithemis elisa* – Calico Pennant**Celithemis eponina* – Halloween Pennant*Celithemis fasciata* – Banded Pennant*Celithemis verna* – Double-ringed Pennant*Erythemis simplicicollis* – Eastern Pondhawk*Erythrodiplax berenice* – Seaside Dragonlet*Libellula axilena* – Bar-winged Skimmer*Libellula cyanea* – Spangled Skimmer*Libellula flavida* – Yellow-sided Skimmer*Libellula incesta* – Slaty Skimmer*Libellula luctuosa* – Widow Skimmer*Libellula needhami* – Needham's Skimmer*Libellula pulchella* – Twelve-spotted Skimmer^*Libellula semifasciata* – Painted Skimmer*Libellula vibrans* – Great Blue Skimmer*Nannothemis bella* – Elfin Skimmer*Pachydiplax longipennis* – Blue Dasher*Pantala flavescens* – Wandering Glider^*Pantala hymenaea* – Spot-winged Glider*Perithemis tenera* – Eastern Amberwing*Plathemis lydia* – Common Whitetail*Sympetrum vicinum* – Autumn Meadowhawk*Tramea carolina* – Carolina Saddlebags*Tramea lacerata* – Black Saddlebags**Suborder Zygoptera: Damselflies****Family Calopterygidae: Jewelwings***Calopteryx dimidiata* – Sparkling Jewelwing*Calopteryx maculata* – Ebony Jewelwing**Family Lestidae: Spreadwings***Lestes forcipatus* – Sweetflag Spreadwing**Lestes inaequalis* – Elegant Spreadwing*Lestes rectangularis* – Slender Spreadwing**Family Coenagrionidae: Pond Damsels***Argia apicalis* – Blue-fronted Dancer*Argia fumipennis violacea* – Violet Dancer*Argia moesta* – Powdered Dancer^*Argia tibialis* – Blue-tipped Dancer*Enallagma aspersum* – Azure Bluet**Enallagma civile* – Familiar Bluet**Enallagma daeckii* – Attenuated Bluet*Enallagma dubium* – Burgundy Bluet**Enallagma durum* – Big Bluet*Enallagma exulans* – Stream Bluet^*Enallagma geminatum* – Skimming Bluet*Enallagma signatum* – Orange Bluet*Enallagma traviatum* – Slender Bluet*Enallagma weewa* – Blackwater Bluet*Ischnura hastata* – Citrine Forktail*Ischnura kellicotti* – Lilypad Forktail*Ischnura posita* – Fragile Forktail*Ischnura ramburii* – Rambur's Forktail^*Ischnura verticalis* – Eastern Forktail*Nehalennia gracilis* – Sphagnum Sprite*Nehalennia integricollis* – Southern Spite*Telebasis byersi* – Duckweed Firetail

Found on the Delmarva Peninsula while traveling home on 17 July 2011

*Found by Hal White

^Found by Josh Rose, Matt Sarver, and Dan Irizarry



Botanical Illustration: Native Bees, Butterflies and Wildflowers of Maryland

Learn about Maryland's important pollinators and how to identify them, while practicing traditional watercolor techniques. Botanical illustrator Molly Hoopes will guide you in the traditional techniques of dry brush, wet-in-wet, wet-on-wet, and graded wash, while you enhance your skills of observation. We will discuss color theory and composition theory, and even some bee anatomy, using the bee collections from the Natural History Society of Maryland. Learn about pollinators and how they have been affected by climate change, pollution, and habitat loss. You may opt to contribute to a collection of watercolor illustrations—a 'bee-ilegeum'—to educate the public about native bees. Some drawing experience is helpful, but everyone is welcome.

- **Instructor:** Molly Hoopes, a graduate of Goucher College, studied Botanical Illustration at Gage Academy Atelier School in Seattle and at Brookside Gardens School of Botanical Art and Illustration. She is a member of the American Society of Botanical Artists.

- **Materials:** Kolinsky Sable or Windsor-Newton series 7 (or any natural sable brush that can be shaped into a sharp point when wet) brush, size 0 or 00 and size 3 or 4. The larger one is for mixing paints and could be a less expensive style. • Palette paper (or paper palette), white plastic or ceramic palette with wells and a lid, if possible • Tracing paper or tracing vellum • Tubes of lightfast transparent artist-grade watercolors – suggested colors: Ultramarine blue, Cerulean blue, cobalt blue deep, Winsor blue (green shade), lemon yellow, yellow ochre, burnt umber, neutral, cadmium red, alizarin crimson, scarlet lake red • syringe for squirting water • mechanical pencil .005 with F or H leads • White eraser • Kneaded eraser • Any size block of Arches or Fabriano hot press watercolor paper • Desk lamp with full-spectrum bulb • If you prefer not to purchase all the supplies, everything you need except for a small brush can be provided for classroom use.
- **Cost: (Note: two separate workshops are being offered)**
 - **Workshop A (Sundays – 3-hour classes):**
Six Sundays. 1:00 – 4:00 pm. November 6, 13, 20, December 4, 11, 18. Whole workshop: NHSM members, \$150; non-members \$180. Drop-in: \$30 per class. Class size limit: 10 students.
 - **Workshop B (Thursdays – 4-hour classes):**
Six Thursdays. 10 am - 2:00 pm. November 3, 10, 17, December 1, 8, 15 (No Meeting on Thanksgiving). Whole workshop: NHSM members, \$200; non-members \$240. Drop-in: \$40 per class. Class size limit: 10 students.
 - A **reduced rate** is available for college students and low-income attendees with a portfolio to show and proof of income. Contact Linda Davis, lm.davis@verizon.net, for more information.
- **Register:** For member rates, become a member of the Natural History Society of Maryland at www.marylandnature.org. To pay for the class, send a check or money order with a note indicating the desired workshop to:

The Natural History Society of Maryland
P.O. Box 18750
6908 Belair Road
Baltimore, MD 21206

- **Location:** Classes will held at St. James Evangelical Lutheran Church, 8 W. Overlea Avenue, Overlea, MD 21206
- **Questions:** Call Linda Davis at 410-252-4154