



Phaëton

The Official Newsletter of the
Maryland Entomological Society

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Meeting Announcement

The Maryland Entomological Society's 309th regular meeting will be held **Friday, 18 March 2016, 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, specimens, observations, and books to share. Refreshments will be provided. Presentations are scheduled to begin at 8:15 p.m.

Speaker: **Kirsten S. Traynor, PhD** – Postdoctoral Research Associate, University of Maryland, College Park, MD; USDA NIFA ELI Fellow; Editor of *Bee World*, International Bee Research Association; Science writer



Kirsten won her first honey bee hive in a raffle and has been fascinated by these social insects ever since. As a German Chancellor Fellow of the Alexander von Humboldt Foundation in 2006-2007, she was hosted at the largest German Institute of Bee Research and traveled over 55,000 miles by car to meet with honey bee scientists and bee breeders throughout Western Europe, publishing 50+ articles in bee journals. Upon her return, she enrolled in graduate school and earned her PhD in honey bee biology with Dr. Robert Page from Arizona State University. Her research focused on how pheromones influence colony dynamics, pollen foraging, and honey bee physiology.

She joined Dr. Dennis vanEngelsdorp's lab as a post-doc in 2014. Her research investigates the impacts of disease and pesticides on honey bee health. Dr. Traynor has forthcoming papers in the *Journal of Apicultural Research* and *Apidologie*, along with three more in submission on pesticides and honey bee health. In addition, she has just received two years of post-doctoral funding for improving honey bee nutrition from the USDA.

Recently Kirsten was appointed as editor of *Bee World*, the International Bee Research Association's beekeeping magazine. With her husband, she authored a new book *Simple, Smart Beekeeping*, an illustrated guide that walks you through keeping healthy honey bee hives. She also wrote *Two Million Blossoms: Discovering the Medicinal Benefits of Honey* with a foreword by honey expert Dr. Peter Molan. You can find her on Twitter at <https://twitter.com/flowerslovebees> and on Facebook at <http://www.facebook.com/Flickerwood>.

Meet for Dinner before the Lectures

If you are interested in meeting for dinner before the lectures, 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 Wilkens Avenue, Baltimore, MD 21229, just 15 minutes from UMBC. Meet at the restaurant **promptly at 6:00 p.m.**

19 FEBRUARY 2016 MES MEETING MINUTES

The 308th general meeting of the Maryland Entomological Society was held on Friday, 19 February 2016 at UMBC and began at 8:34 p.m. with a welcome by President Fred Paras.

The meeting moved immediately into the scheduled lecture which is summarized below. After this, attendees enjoyed a period of conversation and fine refreshments, and then the MES business meeting convened. The business meeting started with the reading by Secretary Dick Smith and approval of the minutes from the November 2015 MES meeting by attendees. Then, treasurer Ed Cohen's report was delivered. The total general funds currently stands at \$4466.94, but \$360.84 will soon be withdrawn to cover costs related to Phaeton and journal publication, reproduction, and distribution. There were no society business items to cover. Fred presented the full slate of upcoming speakers and topics for the spring series of meetings. The inclusion of more student presentations will be considered for some of next year's programs. Fred commended Dr. Turell's 4-H Entomology Club program in Frederick, MD for its burgeoning public school student membership and the depth of its student involvement in entomology. The club exhibited a display of insects at the Francis Scott Key Mall in Frederick on Saturday, Feb. 20, 1-5 p.m. Fred also cited some of the activities of the Natural History Society of Maryland in which MES members may wish to participate in. Under MES meeting exhibits, Phil Kean displayed four Cornell drawers of Lepidoptera that included representatives in the Tiger Swallowtail (*Papilio L.*) species complex, Birdwing species (Papilionidae), and two drawers of *Catocala* Schrank genera moths. Ed Cohen displayed a box of Lepidoptera from northern Pennsylvania that included specimen of the Gallium Sphinx (*Hyles gallii* (Rottemburg)) and Milbert's Tortoiseshell (*Nymphalis milberti* (Godart)).

Respectfully submitted, Dick Smith (MES Secretary)

19 FEBRUARY 2016 MES LECTURE

Speaker: Dr. Jon Gelhaus, Professor in the Department of Biodiversity, Earth, and Environmental Sciences and Curator of Entomology at the Academy of Natural Sciences of Drexel University, Philadelphia, PA.

Title: "Aquatic Insects of Mongolia"

19 FEBRUARY 2016 MES LECTURE

Before discussing the Mongolian aquatic insects, Dr. Gelhaus gave an extensive expose on the geography, people, and lifestyle of this east-central Asian country. The country is slightly smaller in square kilometers than Alaska, landlocked, and bounded on the north by Russia and on the south by China. Its capital, Ulaanbaatar, centers on Chinggis Khaan (Genghis Khan) Square, named for the notorious founder of the Mongol Empire that ruled over the major part of Asia during the 13th- and 14th-centuries. The country consists primarily of steppe grasslands, with mountains in its western region, a dry area east of this, and a wetter climate in the central and eastern portions.

The majority of the country is rural. Such areas are occupied by numerous family units who own herds of a variety of animals, which may include horses, sheep, goats (including cashmere goats), cows, yaks, and camels. They drive their herds from one site to another year-round in a nomadic lifestyle in search of adequate pasturing and water resources. During their stays at a particular site, families live in large plain-colored temporary canvas structures called *gers*. Living is communal, and land ownership and thus fences are non-existent. In contrast, sixty-nine percent of the population lives in urban areas, with Ulaanbaatar being the largest city and hosting a population of about one million. Under the influence of the USSR, the country was basically off-limits to foreign travelers during most of the 20th century. However, with the fall of the Soviet Union the Russians left in the early 1990s and the country thereafter became a sovereign nation with a free-market economy and democratic government. In recent times, tourism to Mongolia has expanded. High-end, catch-and-release fishing expeditions to remote Mongolian rivers have become popular. The world's largest trout, the Eurasian Taimen, *Hucho taimen* (Pallas), is the most sought-after game fish in these areas. Many grow to three feet and they live an average of 50 years.

In 1994, Dr. Clyde Goulden, a pioneering ecologist and the director of the Asia Center of the Academy of Natural Sciences of Drexel University, visited Mongolia. His trip inspired him to choose to devote his career to studying the alarming trends of global climate change occurring there and how these trends are affecting the country's herders and one of the most pristine lakes in the world, the 2-million-year-old Lake Hövsgöl (deemed the "Blue Pearl"). This is the fourth deepest lake in Central Asia, a source of fresh water, and so pristine that it has never been touched by fishermen because fish are not part of the population's diet. The country has a high animal diversity (mammalian examples include the Snow Leopard, *Panthera uncia* (Schreber), and Mongolian Gazelle, *Procapra gutturosa* Pallas)), and also has a high degree (16%) of organism endemism.

Being the fastest growing world economy during 2011-2013, threats to Mongolia's environment come primarily from mining (gold, copper, and coal), which can ruin streams from mineral and chemical run-off. Mongolia's largest commercial mine is the Oyu Tolgoi, which produces copper and gold. Some illegal and uncontrolled mining activity (termed "ninja" mining) has also sprouted up. In rural areas, overgrazing has become a problem, as it leads to erosion, pollution, disturbance of stream-bottom substrates, and destruction of riparian plants and habitats. However, this is not always true, Dr. Gelhaus presented results of one study showing that minor grazing at some locations contributed to stream nutrient enrichment and actually led to greater organism diversity and endemism. The sheep and goat population can be considerably culled in some years by a particularly severe winter called *zud*. Since the

1990s, climate change effects in Mongolia have been much more severe than in the U.S. Rains, for example, have switched from being gradual and soaking to short-term and flooding.

Dr. Gelhaus helped lead the Mongolian Aquatic Insect Survey, a National Science Foundation-funded ten year study (2003-2011), that aimed to identify aquatic insects and monitor water quality levels and trends all across Mongolia. General water quality can be assessed by analyzing the aquatic insect cross-section and diversity. In addition, aquatic insects are affected by toxins that may have passed through streams too rapidly to assess. Thus, their population levels reveal past deleterious events, even if none are evident during current researcher field visits. Stone flies (Plecoptera) are the first insects to disappear at the onset of pollution. Dr. Gelhaus helped to assemble a team of researchers, including volunteers as well as specialists, to identify aquatic insects during each summer's expeditions. Volunteers came primarily from the student bodies of Mongolian universities, as there are over 15 universities in the country. In addition to insect identification, taxonomic research and development of a scientific infrastructure were integral for the survey. Many of the students, spurred and enlightened by this research exposure, have gone on to acquire PhDs in biology. Due to the absolute lack of accessibility of consumer goods across most of Mongolia, most food, feed for pack animals, supplies, fuel, and equipment required by the survey team had to be shipped to Mongolia from the U.S. Fresh food was however available in the form of mutton, mutton soup, yogurt cheese, and snake meat. Vegetables and fruit are not commonly part of the native diet. Maps of much of the country were not available from government sources, so maps or directions to many sites had to be obtained from local sources. A lack of access to banks meant that cash to pay workers and guides and for fresh food was required. The survey was conducted for a period of three to four weeks each summer. Many bridges were washed out and roads were impassable during the summer thaw, so detours were routine. Transport to sampling areas was provided by a variety of conveyances including trucks, jeeps, horses, and helicopters. Travel was accomplished during midday, and most sampling was performed in the evening. This timing was not inconvenient because summer daylight persists there until 10:00 p.m. Diptera of all sorts (horseflies, deerflies, blackflies, mosquitoes, no-see-ums, and face flies) were rampant. Some areas were so notorious for these pests that they were not visited by the locals and were left pristine. In all, 423 sites were visited during the 10-year survey, of which 77% were streams and rivers. Lake Hövsgöl and the large Selenge River basin in the north were also sampled. Stream drainage is either to the Pacific, to the Arctic, or to basin sinks interior to the country. The country hosts both freshwater and saltwater lakes. Aquatic insect sampling consisted of adult and immature collecting. Storage was either as pinned specimens in boxes or in ethanol vials. New volunteers were trained on-the-job. Water chemistry and hydrological

characteristics of each area were also carefully recorded by survey specialists. An indoor laboratory for the survey was provided by the Institute of Meteorology and Hydrology of Mongolia, which is in Ulaanbaatar. Some equipment, glassware, and books were donated to the survey from Mongolian universities. Collected species included orthopterans to assess general insect diversity and habitat variation across regions. In all, about 100,000 specimen samples comprising about 1300 species of aquatic insects were collected and labeled. Of these, 34% were new country records, and 19 species were new to science, with at least one initiating the description of a new genus. The craneflies (Tipulidae) are Dr. Gelhaus' specialty, and between 60 to 70 species of these were identified during the survey. Among the new discoveries was a species of flightless caddisfly that uses its normally dormant wings to skate quickly across water surfaces. Dr. Gelhaus showed a short video clip of this behavior. The trait was also shared by a local species of midge (Chironomidae). Dr. Gelhaus suggested that this behavior may have evolved due to a scarcity of perching substrates and the constantly windy conditions in the area. Such winds could blow the insects away from their water habitat if they attempted any airborne movement. Additional developments from the research included descriptive aids for identification, a guidebook to Mongolian stoneflies, DNA barcoding and morphological studies for taxonomy, behavioral studies, and ecological niche modeling. Many larvae were identified as a result of clear matches of their DNA barcodes against a library of adult barcodes. One study, still ongoing, plans to determine the effect of grazing on grassland butterfly species, their larval hosts, and adult nectar sources. A further research result stemming from the survey has shown that the dry western part of the country exhibits a high degree of genetic stability among species, but many species there have a low tolerance to disturbance. An opposite pattern, i.e., less distinct species and more resilience to disturbance, was observed to be true in the wetter and more vegetated central area of the country. Such studies can lend insight into ecological patterns that were in effect in the American plains region, a similar habitat, prior to the occupation of settlers and development of farming.

Respectfully submitted, Dick Smith (MES Secretary)

WELCOME TO NEW MEMBERS

MES welcomes the following new members to the Society:

Curt W. Harden
John K. Gelhaus

Front Royal, VA
Philadelphia, PA

**ENTOMOLOGICAL SOCIETY OF WASHINGTON
PUBLIC MEETING**

Thu, 7 April 2016; 7:00 p.m.

Topic: TBA

Speaker: TBA

National Museum of Natural History, Smithsonian Institution,
Washington, DC

<http://entsocwash.org/>

**MARYLAND WILDLIFE ACTION PLAN
Complete Draft Available for Review**

The Maryland Department of Natural Resources is seeking public comment on the entire draft plan of the State Wildlife Action Plan (SWAP) which includes ten chapter, appendices, and supplementary documents. SWAP is a non-regulatory strategy to guide the conservation of the state's wide range of fish, plants, and wildlife. This Plan is a revised version of the Wildlife Diversity Conservation Plan which was completed in 2005. The U.S. Fish and Wildlife Service requires that each state review and revise their action plan every 10 years. The Department has led the effort for Maryland, working with other federal, state and local organizations to describe recommended projects for wildlife conservation.

The SWAP can be accessed and comments provided at:
http://dnr2.maryland.gov/wildlife/Pages/plants_wildlife/SWAP_How-to-Help.aspx.

Comments can also be mailed to mdswap.dnr@maryland.gov or mailed to:

Maryland SWAP Coordinator
580 Taylor Avenue E-1
Annapolis, MD 21401

**ENTOMOLOGICAL SOCIETY OF AMERICA
2016 SOUTHEASTERN BRANCH
ANNUAL MEETING**

Sun-Wed, 13-16 March 2016

Sheraton Raleigh Hotel, Raleigh, North Carolina 27601
Early bird rates are in effect through **February 22, 2016**.

For more information and full program see:
<http://www.entsoc.org/southeastern/2016-southeastern-branch-annual-meeting>

**THE MOSQUITOES OF THE MID-ATLANTIC: AN
IDENTIFICATION GUIDE**

Bruce Harrison, Bryan Byrd, Charles Sither, Parker Whitt

Announcing a new mid-Atlantic mosquito guide co-authored by member Bruce Harrison.

Please find order form with sample pages and more details attached.

**UNIVERSITY OF MARYLAND
DEPARTMENT OF ENTOMOLOGY COLLOQUIA**

Fri, 25 March 2016, 12:00 p.m.

“Millipede Biodiversity and the Evolution of Bioluminescence”

Paul Marek, Ph.D. (Assistant Professor, Department of Entomology, Department of Entomology, Virginia Tech University)

Fri, 1 April 2016, 12:00 p.m.

Exit Seminar

Chris Taylor (PhD Candidate, Department of Entomology, University of Maryland)

Fri, 8 April, 2016, 12:00 p.m.

TBA

Catherine Linnen, PhD (Assistant Professor, Department of Biology, University of Kentucky)

Fri, 15 April, 2016, 12:00 p.m.

TBA

Susan Brown, PhD (University Distinguished Professor, Division of Biology, Kansas State University)

Fri, 22 April, 2016, 12:00 p.m.

Exit Seminar

Ryan Gott (PhD Candidate; Department of Entomology, University of Maryland)



Central Maryland Beekeepers Association

Supporting and promoting beekeepers and the viability of honeybees in central Maryland

MEMBERS MEETING

Tue, 5 April; 7:00 p.m.

Bill Sprenkle, of Log Cabin Bee Farm, brings to us his rich knowledge on hive genetics, queen rearing, and re-queening.

Tue, 3 May; 7:00 p.m.

Joe Lewis, of Susquehanna Beekeepers, on methods of making splits.

Members meetings are held at the Oregon Ridge Nature Center, 13555 Beaver Dam Road, Cockeysville, Maryland. Additional information can be found at:

<http://www.centralmarylandbees.org/meetings-3/membership-meeting-schedule/>.

**ICE 2016 TRAVEL AWARDS FOR GRAD STUDENTS
AND EARLY PROFESSIONALS**

New travel awards are available for graduate students and early career professionals who reside in the continental United States to participate in the International Congress of Entomology (ICE 2016) Sept 25-30 in Orlando, FL.

The National Science Foundation has awarded a grant to broaden awareness of insect contributions to ecosystem services and to help graduate students and early career professionals (postdocs and assistant professors) from under-represented groups to participate in the ICE 2016 symposium on “Insect effects on ecosystem services” scheduled for Sept 27, 2016 in Orlando, FL. Note that applicants are not expected to present in this symposium but are expected to attend and participate.

Applications are hereby solicited for travel awards up to \$1500 each. Awards may be used for meeting registration, airfare and housing. Applications must include 1) a cover letter (2 page maximum) stating anticipated benefits for career development from participation in this symposium and in the ICE, 2) anticipated travel expenses and 3) a complete CV.

Applications may be emailed or faxed. Applications must be received by March 1, 2016 midnight Eastern time.

Awards will be announced by March 18 to allow recipients to register by the early deadline of March 25.

For more information and to apply, please contact:

Dr. Tim Schowalter
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Louisiana State University
Baton Rouge, LA 70803
225-578-1827 (office)
225-578-2257 (fax)
tschowalter@agcenter.lsu.edu

Members of underrepresented groups are particularly encouraged to apply.

2015/2016 PROPOSED MES EVENT SCHEDULE

Regular MES lecture/meetings are held at the University of Maryland Baltimore County (UMBC) on the 3rd Friday of each of 6 months coinciding with UMBC's academic year. Proposed

events for the upcoming MES membership year are:

<u>Date</u>	<u>Speaker</u>	<u>Topic</u>
Oct 16	David Rivers	Forensic Entomology
Nov 20	James Brighton	Maryland Biodiversity Project
Feb 19	Jon Gelhaus	Aquatic Insects of Mongolia
Mar 18	Kirsten Traynor	Lecture
Apr 15	Humberto Boncristiani	Lecture
May 20	Members' & Students'	Presentations & Elections
TBD	Survey/Field Trip	
Sep 18	Crab Feast/Meet-&-Greet	at J. KING'S restaurant

OCT 2015 – SEP 2016 MES MEMBERSHIP YEAR OFFICERS

President	Frederick Paras
Vice President	Philip J. Kean
Secretary	Richard H. Smith
Treasurer	Edgar A. Cohen, Jr.
Historian	(vacant)
Faculty Sponsors	Frank E. Hanson & Austin P. Platt

SUBMITTAL DEADLINES

APR 2016 issue of the *Phaëton*:

Please send member news items by 8 April 2016 to aditid26@gmail.com.

SEP 2016 issue of *The Maryland Entomologist*:

Please send first drafts of articles and notes by 1 April 2016 to ejscarp@comcast.net.
