

# Phaëton

# The Official Newsletter of the Maryland Entomological Society

Volume 41, Number 6

March 2021

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FACULTY SPONSOR: Frank E. Hanson

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# MARYLAND ENTOMOLOGICAL SOCIETY MARCH 2021 MEETING

Title: Return of the periodical cicadas: fear, fascination, and fun in 2021 Speaker: Dr. Mike Raupp, Researcher, Professor Emeritus, Department of Entomology, University of Maryland College Park

**Abstract:** Known for their 13 and 17-year life cycles and massive synchronous emergences, periodical cicadas are unique in the insect world. We will explore the natural history, ecology, and behavior of the seven species of periodical cicadas indigenous to North America. Predator satiation, the periodical cicada's bizarre strategy for survival, will be contrasted with defenses of their kin, the dog-day cicadas. Learn when cicadas will appear and how they will impact humans, pets, wildlife, and plants in our region.



**Speaker Bio:** A Professor Emeritus and Fellow of the Entomological Society of America, Mike has authored more than 250 scientific and lay publications and delivered more than 1300 presentations. A regular guest on NPR, he has

been featured on National Geographic and the Science Channel and appeared with media luminaries including Jay Leno, Dr. Oz, Hoda Kotb, and Kojo Nnamdi. His "Bug of the Week" website, www.bugoftheweek.com and YouTube channel http://www.youtube.com/user/BugOfTheWeek reach thousands of viewers weekly in more than 200 countries. His most recent book "26 Things that Bug Me" introduces youngsters to the wonders of insects and natural history while "Managing Insect and Mites on Woody Landscape Plants" is a standard for the arboricultural industry.

Learn more about Brood X and get some cicada merch at https://cicadacrewumd.weebly.com/.

When: March 19th, 7:00 PM

Where: https://us02web.zoom.us/j/84084904063?pwd=TkY2eHFEYnhwbVBMOTdEbFN0bitsQT09

Meeting ID: 840 8490 4063

Passcode: 244356

Dial in: +1 301 715 8592 US (Washington DC)



#### WELCOME TO NEW MEMBERS

MES welcomes the following new members to the Society:

#### Samuel D. Ramsey - Temple Hills, Maryland

#### HONORING MEMBER DONORS

MES wishes to honor the following members who made charitable donations along with their recent membership renewals. These donations help with the printing and mailing of *The Maryland Entomologist*.

Robert W. Dixon
Kelly A. Hamby & Scott R. McCluen
Harold J. Harlan
Philip J. Kean
Heloise Morgan
Kyle E. Rambo
Jennifer A. Selfridge
Floyd W. Shockley
Jeffrey W. Shultz
Robert B. Trumbule
Michael J. Turell
James D. & Amy S. Young

## MINUTES OF THE 335th MEETING OF THE MARYLAND ENTOMOLOGICAL SOCIETY

#### **19 FEBRUARY 2021**

The 335th meeting of the Maryland Entomological Society commenced via "ZOOM", at 7:15 PM. There were 18 participants via "ZOOM" count; many windows revealed two attendees. At least 17 MES members and 4 guests were in attendance.

During a brief business meeting, Treasurer Ed Cohen reported a balance of \$5,787.67 in the Society's account. The meeting ended at 9:40 PM.

#### 19 FEBRUARY 2021 MES LECTURE

Title: Despicable Mites: Recent Findings in the Study of Tropilaelaps mercedesae and Varroa destructor Speaker: Dr. Samuel Ramsey, Researcher, USDA ARS

Dr. Samuel Ramsey, our speaker for the evening, began his lecture with a brief history of the mite infestation of, and resultant damage to, North American bee colonies. His lecture was accompanied by numerous slides illustrating the data being presented, bee colonies affected by *Varroa*, and the geographic spread of the parasite.

*Varroa destructor* was initially observed in the United States in 1987. By 1997, it had wiped out most feral bee colonies. Between 2006 and 2017, 33% of colonies were lost annually. *Tropilaelaps*, a mite closely related to *Varroa*, is becoming a concern.

Varroa and Tropilaelaps are native to Southeast Asia. Much of the older literature on Varroa appeared in Chinese and Russian journals and was not widely translated, nor translated

in their entirety. In many instances, an abstract or a paragraph or two, were all that were translated.

Tropilaelaps mercedesae (hereafter abbreviated as Tropi by the speaker and by this recorder) was, in its original range, a parasite of the giant honeybee. The parasitic mite originated in Southeast Asia, and has spread to India, China, and Iran. Both Varroa and Tropi are native to Southeast Asia, and both have migrated the same way, although Tropi is moving faster.

Varroa feeding behavior is difficult to observe. It was widely believed that Varroa fed on the hemolymph of the host bee. Dr. Ramsey studied the frass of Varroa and determined that it was 95% guanine, which is a result of feeding on fat body cells rather than hemolymph. He stated that Varroa do not possess the digestive system necessary to excrete the excess fluid that would result from feeding on hemolymph. Electron microscopy was employed to observe feeding wounds in the membranes between the sternites and tergites of a host bee. Light microscopy of a bee/mite pair revealed the mite feeding on the bee's fat body cell. A frozen section of a bee/mite pair showed the mite attached to the bee and the mite's body filled with bee fat body tissue. He employed biostains (Nile red and uranine) to determine if the mites fed upon hemolymph or fat body cells; the technique demonstrated that fat body matter was consumed.

Fat body tissue is involved in many functions of the bee's body, and Dr. Ramsey showed a slide comparing various fat body functions and pathologies in parasitized bees.

He created an in vitro feeding system for *Varroa*, in which populations were fed varying ratios of hemolymph/fat body diets (100% hemolymph, 75%/25% hemolymph/fat body (h/f), 50%/50% h/f, 25%/75%h/f, and 100% fat body). The study demonstrated that fat body ingestion is an essential component of the diet of *Varroa*. The *Varroa* populations fed high concentrations of fat body produced eggs.

He showed a map of Reunion Island revealing the spread of *V. destructor* in 4.5 months, due to one mite in a shipment of queens from Madagascar.

Dr. Ramsey has spent considerable time in Thailand studying the parasitic mites in their native habitat and showed several slides of the region. The Covid pandemic and worldwide travel restrictions have interrupted this work. Dr. Ramsey indicated the need for future studies of *Tropilaelaps*, if as feared, that becomes an additional parasitic pest of domestic bee colonies. *Tropi* creates many more feeding wounds in the bee than does *Varroa*.

During a question-and-answer session, one attendee asked if native plants in Southeast Asia produce nectar that is protective for bees in that region. The answer was that not a lot of research has been conducted on that topic. Several members discussed the feasibility of introducing a parasite, or disease-causing organism specific to *Varroa*. The consensus was that such actions are inadvisable.

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Respectfully submitted, Janet A. Lydon, MES Secretary

#### IN MEMORIAM Dr. William A. Andersen, M.D. January 12, 1925 – July 17, 2020

It is with great regret and sadness that I have to announce the passing of long term M.E.S. member Dr. William A. Andersen, M.D. of Lutherville, Maryland on July 17, 2020. Dr. Andersen was both a charter and founding member of the Society and served as our President from 1975 to 1977. More recently he was granted a lifetime membership as well.

Dr. Andersen was always a Baltimore area resident. He was a graduate of Baltimore City College and the Pre-med Program at Johns Hopkins University. He then went on to obtain his medical degree from the University of Maryland Medical School. After obtaining his degree he served in the U. S. Army 1950-53 during the Korean War, where he was posted to a front-line Medical Unit, located ahead of the MASH units. Following his Army service, he returned to the Baltimore area and entered private practice specializing in Pediatrics. Later, he continued to serve the citizens of Baltimore County by accepting the position of Director of Child Health with the Baltimore County Health Department.

Dr. Andersen developed an interest in entomology early in life and, from the time he was a schoolboy, became fascinated and focused on butterflies. This fascination followed him throughout his life. So avid was he in pursuit of his pastime that he even managed to bring home a substantial collection of specimens obtained during his Army service near the Korean war zone.

Upon returning to the Baltimore area following his wartime service, Dr. Andersen rekindled his friendship with Dr. Robert Simmons, a childhood collecting companion, and the two began a lifelong partnership collecting and documenting Maryland's butterfly fauna. Over a period of more than 30 years they traversed the entire state. Together they collected butterflies in every Maryland county and from just about every habitat type to be found across the entire expanse of our state. From the mountains of western Maryland to Ocean City and from shale barrens to coastal marshes, the two of them collected and cataloged the occurrence and distribution of just about every species of butterfly that occurs within our borders. Together they established many new state distribution records and literally hundreds of county records on the occurrence and ranges of species found in Maryland from the 50's, 60's and 70's. Their collaboration was a lifelong partnership that only ended with Dr. Simmons' untimely passing in the late 1980's.

Many of their most notable records have been published as notes in the Journal of the Lepidopterist's Society and their data was heavily utilized by the state's Natural Heritage Program in establishing baseline information on Maryland's rare and threatened butterfly fauna.

Beyond his pursuit of butterflies Dr. Andersen was truly a "Renaissance Man" with many diverse and varied interests. He was a founding member of the Baltimore Antique Bottle Club and recognized expert on Baltimore's antique glass and bottle industry and wrote the definitive book on Baltimore's antique bottles and jars. He also had an extensive knowledge and collection of Baltimore's Haines and Bennet pottery. Additionally, he became a serious collector of antique mantle clocks that were all in working order.

In addition to his many collections and interests, Dr. Andersen was musically talented as well. He was a lifelong member of the Govans Presbyterian Church where he sang in their choir and was also an original member of the Baltimore Choral Arts Society where he was unofficially known as the "Cal Ripken" of the Society for his lengthy tenure of 42 seasons.

For my own part, I will always remember Dr. Andersen for his open and friendly demeanor and for his extensive knowledge of our local butterflies. If you were to name a species of butterfly, Dr. Andersen could immediately tell you if it occurred in Maryland, where you could go to find it, what time or times during the season to go and look for it, and even its favorite nectar or food sources. And the only thing you had to do to get the whole picture was to simply ask the question. Some of my fondest collecting memories are of trips I took with him and Dr. Simmons early on in my collecting "career". Some of my rarest and most prized specimens of Maryland butterflies in my collection were obtained when Dr. Simmons and Dr. Andersen consented to allowing the young "whippersnapper" to tag along. They led me to my first specimens of such things as Pepper & Salt Skippers, my first Bronze Coppers, and so many more species and I cherish those memories to this day. When my time is upon me, I look forward to joining him on the other side. And I'll be bringing my net with me.

It is reassuring to know that his extensive collection and record book lives on in the hands of a few close members who will perpetuate the scientific importance of these as the unfortunate decline of all butterfly populations in Maryland is further obviated. Several species are now extirpated, and many are rarely seen, we are fortunate to have Dr. Andersen's original specimens as references.

Dr. Andersen passed away peacefully at his Lutherville home after spending much of the last year in declining health. He was 95 years old.

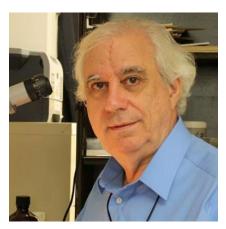
Respectfully, Phil Kean

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#### IN MEMORIAM F. Christian "Chris" Thompson April 24, 1944 – February 4, 2021

Dr. Frederic Christian Thompson passed away on February 4, 2021 in Jacksonville, FL, after a brief illness.

Dr. Thompson had a distinguished career as a scientist, educator, and philanthropist. His life was fulfilling both professionally and personally, and he leaves a legacy supporting many organizations that impacted his life work, such as establishing dedicated endowments for both the Smithsonian and the Smithsonian Libraries.



After receiving a B.S. and Ph.D. from the University of Massachusetts, Amherst, he served in the United States Army during the Vietnam War, stationed at the First Army Medical Laboratory, Fort Meade, MD. After leaving the Army, he accepted a post-doctoral fellowship at the American Museum of Natural History in New York City, NY. He then joined the USDA Systematic Entomology Laboratory located at the Smithsonian National Museum of Natural History, Washington, DC, where he served as Curator of Insects (Syrphidae) for 37 years. After retiring, he became a Smithsonian Research Associate, continuing his life work and maintaining his office at the museum.

Dr. Thompson authored over 140 scientific publications and was one of 25 specialists from around the world elected to serve on the International Code of Zoological Nomenclature. He described 28 genera and 150 species of flower flies. His research focus was on systematics, zoogeography, and biodiversity.

Born April 24, 1944 in Boston, MA to parents Paul Thompson and Elinor Bunn Thompson. He is survived by his beloved wife, Betty, and world travel companion of 49 years. His brother, Mr. Paul Brooks Thompson of New Smyrna Beach, FL, and sister, Dr. Tracy Thompson of Berkeley, CA, along with numerous nephews and nieces.

(Shared from the Neptune Society website.)



#### 2021 VIRTUAL ESA EASTERN BRANCH MEETING REGISTRATION NOW OPEN

The Eastern Branch Executive Committee is pleased to announce that this year's Virtual Eastern Branch Meeting, taking place March 22-24, is being offered free of charge to all ESA members.

Registration provides you with access to all live sessions and on-demand content for the Eastern, Southeastern, and Pacific Branch meetings.

View the Schedule-at-a-Glance for the Eastern Branch Meeting. Full schedule coming soon!

Eastern Branch Meeting: March 22-24 Southeastern Branch Meeting: March 29-31 Pacific Branch Meeting: April 5-7

Register now, here:

https://online.entsoc.org/esassa/f?p=EVTSSA%3A4010%3A %3A%3A%3A%3AP0 EVENT ID%3A1166%3A

For more information, visit: https://www.entsoc.org/eastern/2021-branch-meeting



# UNIVERSITY OF MARYLAND DEPARTMENT OF ENTOMOLOGY COLLOQUIA

Fri, 26 March 2021, 12:00 p.m. TBA

Maggie Lewis, PhD student, Department of Entomology, UMD

Fri, 2 April 2021, 12:00 p.m.

Resurrecting a historical dataset: what can 80 year old caterpillars tell us about tri-trophic interactions in the face of environmental change?

Dr Colleen Nell, Data Visualization Specialist, U.S. Geological Survey (USGS)

Fri, 16 April 2021, 12:00 p.m.

Sequencing old to very old specimens: Museomics clarify relationships within the morphologically troublesome Tenebrionidae (Coleoptera)

Dr. Kojun Kanda, Research Associate, Systematic Entomology Lab, NMNH

Entomology colloquia can be accessed through this zoom link: https://umd.zoom.us/j/92018210735?pwd=L3VWcXZDUXBz NzIzWEVXbjd4RkdLdz09 .

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For additional information, go to: http://entomology.umd.edu/seminar-schedule.html



# ENTOMOLOGICAL SOCIETY OF WASHINGTON APRIL MEETING

Thur, 1 April 2021, 7:00 p.m.

"13- and 17-year Cicadas, Insects that Count (in fours)" Chris Simon (Professor, Ecology & Evolutionary Biology, University of Connecticut, Storrs)

The Big Brood is coming! Your family, friends and neighbors will soon be asking you all about cicadas. Be prepared. Please join us for the April meeting where we will be fortunate to have a presentation from Prof. Chris Simon, one of the world's foremost cicada experts. Hope you can join us on April 1 (no fooling!).

The Entomological Society of Washington (ESW) is inviting you to a scheduled Zoom meeting.

Topic: ESW April Meeting

Time: Apr 1, 2021 07:00 PM Eastern Time (US and Canada)

Join Zoom Meeting

https://us02web.zoom.us/j/89866182021?pwd=Y0lVbVJ6OGsrSGJFbDlWenNWSUljQT09

Meeting ID: 898 6618 2021

Passcode: 850976

One tap mobile

+13017158592,,89866182021#,,,,\*850976# US (Washington DC)

+13126266799,,89866182021#,,,,\*850976# US (Chicago)

### Past virtual meetings of ESW can be found on YouTube at:

 $https://www.youtube.com/channel/UCb6ZOw1FsjWpN1wWp\\TLvceQ$ 



# ESSIG MUSEUM OF ENTOMOLOGY ESSIG BRUNCH SEMINARS

Essig Brunch is a weekly virtual seminar series, run by the Graduate Students in Arthropod Science at the University of California-Berkeley, featuring local and visiting researchers presenting a wide range of entomology topics. Seminars are open to the public. Additional information can be found at: https://essig.berkeley.edu/events/essig-brunch/.

#### Fri, 19 March 2021, 1:10 p.m. EST

Cross-species transmission dynamics and determinants of host range: Milkweed butterflies and their protozoan parasites as a case study

Maria Müller Theissen, PhD candidate (Altizer Lab), University of Georgia

#### Fri, 2 April 2021, 1:10 p.m. EST Arachnid Behavior/Population Genetics

Dr. Kenny Chapin, Post Doc (Dornhaus Lab), University of Arizona

#### Fri, 9 April 2021, 1:10 p.m. EST

Evolutionary biology of sex and sexual conflict

Dr. Mercedes Burns, University of Maryland – Baltimore County

Fri, 16 April 2021, 1:10 p.m. EST

Squash Bees: Origin, diversification, and ecological interactions

Dr. Margarita Lopez-Uribe, Penn State University



# BIOLOGY & GENOMICS OF SOCIAL INSECTS VIRTUAL MEETING

#### Tue, March 30 - Thurs, April 1, 2021

Topics:

- Comparative Genomics of Insect Sociality
- Epigenetics, Gene Regulation, and Social Organization
- Molecular Evolution of Insect Societies
- Neurobiology and Physiology of Social Insects
- Novel Techniques and Bioinformatic Advances and their Applications to Social Insect Biology
- Social Insect Microbiomes and Immunity

For more information and to register, visit: https://meetings.cshl.edu/meetings.aspx?meet=insect&year=2

#### CENTER FOR SYSTEMATIC ENTOMOLOGY ANNUAL CONFERENCE

Sat, April 3, 2021, 1:00 a.m.

Scientific presentations will commence at 11:30 am. Presentations will be 15 minutes-long maximum and will be delivered via zoom. We also welcome submissions of shareable digital posters.

Membership is not required to attend the conference, and there is no registration fee. However, joining the CSE permits members and their co-authors to publish free of charge in the

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peer-reviewed open-access taxonomic journal Insecta Mundi.

A Certificate of Participation will be available to attendees upon request.

For additional information see the attached flyer.



### THE OHIO STATE UNIVERSITY

#### WELCOME SPRING! AUTHORS SPEAKER SERIES

Join us daily, March 22 - 26 at 10 AM EST. Webinars are approximately 60 minutes. All sessions will be recorded and posted on the Bee Lab website by early April.

For more information and to register, visit https://u.osu.edu/certify/springauthors/

Mon, 22 March 2021

The Nature of Oaks: The Rich Ecology of Our Most Essential Native Trees

Doug Tallamy

Tue, 23 March 2021

Wasps: Their Biology, Diversity and Role as Beneficial

**Insects and Pollinators of Native Plants** 

Heather Holm

Wed, 24 March 2021

The Solitary Bees: Biology, Evolution, Conservation

Bryan Danforth

Thur, 25 March 2021

**Common Bees of Eastern North America** 

Olivia Carril

Fri, 26 March 2021

Good Garden Bugs: Everything You Need to Know about

**Beneficial Predatory Insects** 

Mary Gardiner

#### **AGSX VIRTUAL SYMPOSIUM SPRING 2021**

You are invited to register for the AGSx Virtual Symposium Spring 2021 at https://tinyurl.com/yyoqruyb. The AGSx symposium is a series of four separate virtual sections taking place once a month starting on February 9, 2021 and the finale on May 12, 2021. These are organized independent of the annual Arthropod Genomics Symposium (AGS). AGSx symposia section topics are listed below, and more specific details on speakers can be found at

http://i5k.github.io/agsx2021 (with additional details forthcoming).

The webinars are free and will run via a Zoom link sent out prior to each session via email to those who have registered. Session schedule:

# April 13, 2021: 10 am CST/11am EST/5pm CET to 11:30am CST/12:30pm EST/6:30pm CET

Application of New Genomic Tools and Techniques in Arthropods

Organized and moderated by Dr. Marcé D. Lorenzen, North Carolina State University, Raleigh, NC, USA

# May 12, 2021: 10am CST/11am EST/5pm CET to 12pm CST/1pm EST/7pm CET

Honeybee Workshop

Organized and moderated by Drs. Sonia Eynard & Alain Vignal, INRAE, Castanet Tolosan, France

Posted on behalf of session organizers. An AGS and i5K event hosted by USDA-ARS.

#### 'EXPANDING HORIZONS IN LEPIDOPTERA RESEARCH' WEBINAR SERIES

Please join the McGuire Center for Lepidoptera & Biodiversity at the Florida Museum of Natural History to hear about the latest advances in diverse fields of Lepidoptera research, including evolution, genetics, ecology, biology, and conservation, among others.

#### Tue, 16 March 2021, 12:00 p.m.

#### The genetic basis of color in butterfly wings

Arnaud Martin (Department of Biological Sciences, George Washington University)

#### Tue, 30 March 2021, 12:00 p.m.

What can butterflies and moths teach us about conserving nature on a warming planet?

Callum Macgregor (Energy and Environment Institute, University of Hull)

Talks are open to all via Zoom at the following link: https://ufl.zoom.us/j/94944480196

For additional information, go to:

https://www.floridamuseum.ufl.edu/mcguire/seminar-series/



Thurs, March 18, 2021, 7:00 p.m. – 8:00 p.m.

**Title:** Bonds of Honeydew: Understanding the relationship between Acropyga ants and mealybugs

**Speaker:** Dr, John LaPolla (Professor, Department of Biological Sciences, Towson University)

Find more information about NHSM and register for event

Find more information about NHSM and register for events here.

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#### NHSM MARCH 2021 RAFFLE

This month we are raffling a genuine fossil Oreodont skull valued at \$450!

Oreodonts are an extinct group of early mammals that roamed the earth between 35 and 4 million years ago. It consisted of a great variety of species ranging from small pig to cattle sized. It is thought that many forms looked pig- or sheep-like. They were grazers on the grasslands of North and Central America.

There is a lot of debate about what modern mammals they are most closely related to, but they definitely fall under the order Artiodactyla: even-toed hoofed mammals. Some experts think they are more closely related to pigs, but others feel their teeth indicate they may be more closely related to camels.



This fossil oreodont skull consists of the upper skull (no lower jaws apparent) as well as a limb bone and a few vertebrae. It weighs almost 5 pounds and the skull is approximately 7 inches long. We've also scanned this fossil in a 3-D scanner! To view the 3-D scan of this fossil, follow this link: https://sketchfab.com/3d-models/oreodont-skull-1106a278208741949e81df7315ea15e5

For further reading on oreodonts follow this link: https://www.palaeontologyonline.com/articles/2015/fossil-focus-oreodonts/

Tickets are \$5 and buying more than one ticket increases your chances of winning. Only 1000 tickets will be sold to benefit the Natural History Society of Maryland. Cut-off date to be entered is March 31, 2021 at noon.

Get more information and purchase your tickets here.

#### 2020/2021 PROPOSED MES EVENT SCHEDULE

Due to the COVID-19 pandemic, regular MES lecture/meetings are currently being held virtually on Zoom at 7:00 p.m. on the 3rd Friday of each of 6 months coinciding with UMBC's academic year. Proposed events for the current MES membership year are:

Date	Speaker	Topic
Oct 16	Warren Steiner	Insects Associated with
		Local Milkweed
Nov 20	Sam Droege	State of Wild Native Bee
		Populations in MD
Feb 19	Samuel Ramsey	Despicable Mites: Recent
	-	Findings in the study of
		Tropilaelaps mercedesae and
		Varroa destructor
Mar 19	Mike Raupp	Cicadas-Brood X
Apr 16	Mike Turell	What Makes a Mosquito a
		Good Vector
May 21	Members Presentations	

# OCT 2020-SEP 2021 MES MEMBERSHIP YEAR OFFICERS

President	Frederick Paras
Vice President	Philip J. Kean
Secretary	Janet A. Lydon
Treasurer	Edgar A. Cohen, Jr.

Historian (vacant)

Faculty Sponsors Frank E. Hanson Journal Editor Eugene J. Scarpulla

E-newsletter Editors Aditi Dubey

#### SUBMITTAL DEADLINES

#### April 2021 issue of the *Phaëton*:

Please send member news items by 9<sup>th</sup> April 2021. Send e-newsletter drafts to Addie at aditid26@gmail.com.

September 2021 issue of *The Maryland Entomologist*: Please send first drafts of articles and notes by 1 April 2021. Send drafts to Gene Scarpulla at ejscarp@comcast.net.

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