

# The Emerging Times

The Official Mid-Atlantic Mosquito Control Association Newsletter

Summer/Fall 2023

#### President's Message

I hope everyone's season went well and you answered everyone's questions about malaria. I would also like to thank all mosquito control staff out there and especially those in the areas with malaria transmission for keeping it from becoming a problem for all of us. Year after year mosquito control staff are out there throwing themselves at these mosquito borne disease problems when they appear.

Coastal Georgia is hot and humid with mosquito populations coming and going as they do. This year EEE and WNV are both active in the Savannah area but only at moderate levels, so far. We are now in the back end of the 2023 mosquito season and almost to the time of year we can catch our breath. It is also the time of year to catch up on some training, share ideas and lessons learned with each other. This Newsletter has a lot of information regarding the upcoming annual meeting. Please share this information with others and consider presenting or at least joining us in Annapolis this January.

Ture Carlson, MAMCA President

### The 2023 MAMCA/GMCA was a blast.







Corey A. Day received the 2022 Student Award. Arielle Arsenault-Benoit received the 2023 Student Award.

Robert received President Plaque for 2020-2022.



Tom received recognition for dedicated service and diligent efforts as VP and Program Chair for 2020-2022. He also received President Plaque for 2022-2023.



Passing of the Gavel: Tom to Ture





Ros received the R. E. Dorer Award.





Left to Right (back row): Brian Prendergast, Eric Dotseth, Chris Evans, Ture Carlson, Thomas Moran, Andy Kyle

Left to Right (front row): "Tiffany" Thuy-Vi Thi Nguyen, Robert Cartner, Sue Ferguson, Jeff Hottenstein, Adrianna Sharkey, Christian Boyer

### 2024 ANNUAL MAMCA MEETING

# DoubleTree by Hilton Hotel Annapolis, Maryland



The 49<sup>th</sup> Annual Mid-Atlantic Mosquito Control Association (MAMCA) Annual Conference is scheduled for January 23-25, 2024, taking place in beautiful Annapolis, Maryland. If you are looking to present this coming conference, please reach out to President-Elect Brian Prendergast at <a href="mailto:brian.prendergast@maryland.gov">brian.prendergast@maryland.gov</a>.

#### **HOTEL RESERVATIONS**

Conference room rates at the DoubleTree for single or double occupancy are \$108.00 + hotel occupancy taxes and fees. Rooms can be reserved using the following link, <u>Mid Atlantic Mosquito Control Conference (hilton.com)</u>. Reservations must be made by Monday, January 8, 2024 after which time the room rate is not guaranteed.

#### **MEETING REGISTRATION**

The full conference registration fee is \$145.00 and includes all Breaks, Suppliers Social, Banquet, and Membership in MAMCA for one year. One-Day and Student registrations are available. Payment may be made by cash, check, money order, or credit card.

When finalized, more information about the agenda can be found at <a href="https://www.mamca.org/annual-conference">https://www.mamca.org/annual-conference</a>.

### 49<sup>TH</sup> ANNUAL MEETING OF THE MID-ATLANTIC MOSQUITO CONTROL ASSOCIATION January 23-25, 2024 – ANNAPOLIS, MARYLAND

#### **MEETING REGISTRATION**

The 2024 Annual Meeting will be held at DoubleTree Annapolis (210 Holiday Court Annapolis, MD 21401) on January 23-25, 2024. The full conference registration fee is \$145.00 and includes all Breaks, Suppliers Social, Banquet, and Membership in MAMCA for one year. One-Day and Student registrations are available. Payment may be made by cash, check, money order, or credit card.

#### SUSTAINING MEMBER/EXHIBITOR REGISTRATION

All current Sustaining Members are entitled to one exhibit space at the annual meeting, one (1) full conference registration, one individual membership in MAMCA, and recognition in all association sponsored publications. Sustaining Member dues are \$650.00 and must be paid prior to the Annual Meeting.

#### **HOTEL RESERVATIONS**

Conference room rates at the DoubleTree for single or double occupancy are \$108.00 + hotel occupancy taxes and fees. Rooms can be reserved using the following link, <u>Mid Atlantic Mosquito Control Conference (hilton.com)</u>. Reservations must be made by <u>Monday</u>, <u>January 8</u>, 2024 after which time the room rate is not guaranteed.

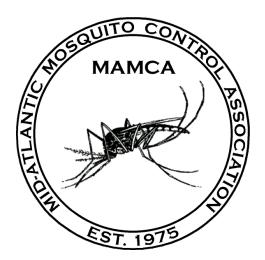
### MEMBERSHIP DUES Regular membership in MAMCA is \$10. If you are unable to attend the annual conference but wish to join or renew

your membership in MAMCA, please complete the applicable portion of the form below.

To register, please complete and return this form, with payment, by Monday, January 8, 2024. Registrations received after this date must contain a \$10.00 late fee. To avoid a late fee, verify that Andy Kyle has received your information or knows you plan to attend before the above deadline. Name:\_\_\_\_\_Companion: \_\_\_\_ Organization: Mailing Address: \_\_\_\_\_ State:\_\_\_\_ Zip: \_\_\_ City: Phone:\_\_\_\_\_\_ Fax:\_\_\_\_\_ E-mail: \_\_\_\_\_ One-Day Registration (Tuesday pm, January 23rd OR Thursday am, January 25th) ..... \$40.00 \_\_\_\_\_ Additional Banquet Tickets - Indicate number of tickets (\_\_\_\_\_) .......\$40.00 Sustaining Member Registration (includes 2024 MAMCA Dues)......................\$650.00 Will you be Exhibiting at Meeting? Yes \_\_\_\_ No \_\_\_\_ TOTAL ENCLOSED \$ Payment: (please check appropriate method) Check\_\_\_\_\_ Invoice Required\_\_\_\_ (emailed to address provided above) Credit Card\_\_\_\_\_ Card Number: Expiration Date: \_\_\_\_\_ CVV code: \_\_\_\_\_ Billing Zip Code: Credit card information can also be given by phone to Andy Kyle at (717) 793-7705.

Make checks payable to **MAMCA** and mail with this form to: Andy Kyle, MAMCA Secretary-Treasurer 2471 Mayfield Street, York, PA 17406

Cancellations / Requests for refunds must be received by January 12, 2024 after which time no refund will be issued.



### MAMCA Call for Presenters Form

For questions and to submit this form, please contact brian.prendergast@maryland.gov

by Monday, December 11, 2023

Presenter Contact information
Name:
Affiliation:
Address:
Phone:
Presentation Information
Presentation Title:
Author(s):
Presentation Length:

### Upcoming Meeting and Important Events

Meeting	Location	<u>Dates</u>
GMCA Annual Conference Georgia Mosquito Control Association	Jekyll Island, GA	Oct. 18 - Oct. 20, 2023
Entomology 2023 Entomological Society of America	National Harbor, MD	Nov. 5 - Nov. 8, 2023
FMCA Annual Conference Florida Mosquito Control Association	Port Charlotte, FL	Nov. 13 - Nov. 16, 2023
NCMVCA Annual Conference North Carolina Mosquito & Vector Control Associa	Carolina Beach, NC	Nov. 15 - Nov. 17, 2023
MAMCA Annual Meeting  Mid-Atlantic Mosquito Control Association	Annapolis, MD	Jan. 23 - Jan. 25, 2024
VMCA Annual Meeting Virginia Mosquito Control Association	Virginia Beach, VA	Feb. 20 - Feb. 22, 2024
AMCA 2024 Annual Conference American Mosquito Control Association	Dallas, TX	Mar. 3 - Mar. 8, 2024

### Organizational Links

American Mosquito Control Association: <a href="http://www.mosquito.org/">http://www.mosquito.org/</a>

Delaware DNREC: https://dnrec.alpha.delaware.gov/fish-wildlife/mosquito-control/

Entomological Society of America: <a href="https://www.entsoc.org/">https://www.entsoc.org/</a>
Florida Mosquito Control Association: <a href="http://www.yourfmca.org/">http://www.yourfmca.org/</a>
Georgia Mosquito Control Association: <a href="http://www.gamosquito.org/">http://www.gamosquito.org/</a>

Maryland Dept. of Agriculture Mosquito Control: https://mda.maryland.gov/plants-pests/Pages/mosquito control.aspx

Mid-Atlantic Mosquito Control Association: <a href="http://www.mamca.org/">http://www.mamca.org/</a>

North Carolina Mosquito and Vector Control Association: http://www.ncmvca.org/

Northeast Regional Center for Excellence in Vector-Borne Diseases: http://www.neregionalvectorcenter.com/

Northeast Mosquito Control Association: <a href="http://www.nmca.org">http://www.nmca.org</a>
Pennsylvania Vector Control Association: <a href="http://www.pavectorcontrol.org/">http://www.pavectorcontrol.org/</a>
South Carolina Mosquito Control Association: <a href="http://www.scmca.net/">http://www.scmca.net/</a>

Society for Vector Ecology: http://www.sove.org/

Tennessee Mosquito and Vector Control Association: <a href="http://www.tennmosquito.com/">http://www.tennmosquito.com/</a>

Virginia Mosquito Control Association: http://www.mosquito-va.org/

West Virginia Office of Epidemiology and Prevention Services: https://oeps.wv.gov/Pages/default.aspx

#### Delaware

The Delaware Mosquito Control Section was off to an unusually slow start to our mosquito breeding season from early May to mid-July with many of our salt marshes receiving only 5 inches of rain during that time. However, the tides quickly turned so to speak during the month of July where a large portion of the west side of the state received on average 5 to 6 inches of rain with some residents reporting up to 10 inches from rain gauges during a single rain event. This storm system caused a large eruption of various *Psorophora* species inland as well as substantial broods of *Aedes sollicitans* from our coastal saltmarshes. In response to this wave, our section conducted 100,423 acres of aerial adulticide applications as well as 4,228 acres of aerial larvicide applications. With a couple months left of warmer weather and hurricane season now upon us we may have multiple brood events left to contend with before this eventful year comes to a close.

We successfully deployed our sentinel chicken locations across the state just after the 4<sup>th</sup> of July and since that time 24 chickens have already tested positive for West Nile Virus and 4 of those came from downstate, which is quite early, and we are all waiting to see if that trend holds for the remainder of the virus season. The average number of West Nile Virus positive chickens from our sentinel chicken program typically hovers right around 22 for the entire virus season, so having already surpassed the average means the potential for a near record breaking year is not out of the question. There are 20 locations established across the state and blood samples are taken every week to keep tabs on local virus activity in the state. While we typically do not get any West Nile Virus or Eastern Equine Encephalitis detections this early downstate, 2023 has shown to be anything but a typical year!

As always, we strive to provide the absolute best service for the great state of Delaware!

Submitted By Rory Badger

#### Georgia

Weather-wise, this has been a very odd mosquito season in Georgia. We got off to a very early start during February with a human WNV case just after it got warm for a couple of weeks. Then it got cold again and everything mosquito stopped.

Once it warmed back up, we had a slow start to the mosquito season in some areas and a slow start with WNV. We had a lot of rain in many of the areas where we test mosquitoes for WNV, which may have had an impact on *Culex quinquefasciatus* numbers.

Up until Hurricane Idalia hit, we were seeing a rapid increase in WNV+ mosquito pools, although we were still lagging behind last year. Since Idalia hit 4 of the 7 counties where testing occurs, we will likely see a decrease in WNV+ pools going forward. They, however, are likely to see an increase in nuisance species.

We currently have 5 EEE+ horses reported. The Georgia Department of Agriculture (GDA), from whom we get our horse case data, feel that the amount of testing has decreased, leading to low case counts. Chatham County has reported one EEE+ mosquito pool and 2 EEE+ sentinel chickens. We have 5 confirmed WNV+ human cases/PVDs, and several more WNV+ human cases that are in the process of being confirmed. This is still somewhat behind our cases counts from last year, which is not a bad thing at all.

As far as tick work, we have lined up several opportunities to collect ticks off both bear and deer during the Georgia Department of Natural Resources Wildlife Management Area quota hunts. We just got our final tick IDs back from the Veterinary Lab in Illinois, where we send them in concurrence with our collaboration agreement with the GDA, so we will be putting together the 2022 tick summary soon. If anyone wants a copy, please let us know.

Submitted By Rosmarie Kelly



### CALL FOR NEWSLETTER ARTICLES

The need for sharing information and collaborating with different states and jurisdictions is at an all-time high. This newsletter and others like it need articles to help readers have access to ideas and contacts to further their programs. Articles can be from any facet of mosquito, tick or other pest control operations. Please send any articles, pictures, or news to Tim DuBois at <a href="duboist@portsmouthva.gov">duboist@portsmouthva.gov</a> to submit for the next newsletter!

#### Maryland

#### Eastern Shore

Mosquito numbers are decidedly up from last year, and Ae. canadensis have been persisting in low but consistent numbers through the season.

There have been 8 aerial applications conducted this year so far, all adulticiding, and two of which were in response to EEE positives. A total of 45,755 acres have been treated via aerial application.

#### Western Shore

Mosquito numbers are up from last year in some areas and about the same in others. An *Ae. fulvus pallens* was found in Anne Arundel County in July, the first one since summer of 2018.

A total of 25 disease responses have been conducted following WNV positives from traps.

Our partnership with the company Vectech has been going very well. Vectech is a company using Ai to identify mosquitoes, with IDs confirmed by an on-site entomologist. They have been contracted with the state of Maryland to set twelve gravid traps a week in specified locations throughout Anne Arundel county, then ID the mosquitoes collected, pool vector species, and report the trap data to the state weekly. This partnership has yielded good results in both decreasing the workload of state employees, and in WNV detection.

#### Blackfly program

For the past few years we have been conducting a blackfly control program on the Potomac River near Harper's Ferry. Surveys of larval populations are conducted to determine treatment timing, and treatments consist of Bti applied via helicopter. Effective control was complicated this year due to low water levels opening up more breeding habitat, and reinoculation of the treatment area with eggs and larvae from the untreated Shenandoah River which joins the Potomac a bit upriver from the treatment site.

#### WNV General

There have been three known human cases of WNV so far this season, including one death. This person seems unlikely to have contracted the disease in Maryland however, as they began feeling ill immediately after returning from a trip to Canada.

#### Malaria

The first local transmission of malaria in 40 years was recorded a few weeks ago in central Maryland. The species of malaria involved was *P. falciparum*, which seems to indicate a different origin than the locally transmitted *P. vivax* cases which have been recorded in Florida and Texas this year. Both larviciding and multiple adulticide applications were done in the area surrounding the transmission site.

#### Pennsylvania

Pennsylvania's Mosquito-borne Disease Program have collected a total of 1,395 positive pools for West Nile virus throughout the Commonwealth. There are also three birds and one horse that have tested positive. Currently, there is one human illness case that has been reported. The Vector Management laboratory also tests all *Culex* pools for St. Louis Encephalitis, however, no positives have been found to date.

In addition to WNV and SLE, the lab has begun testing for Jamestown Canyon Virus. 20 pools have tested positive for JCV in 4 counties. Species that have tested positive include *Aedes trivitattus*, *Aedes sticticus*, *Anopheles punctipennis*, *Aedes triseriatus*, and *Aedes vexans*. These are the first positives to be reported from Pennsylvania. The consistent rain events have allowed these species to persist throughout the season.

The Tick Surveillance and Testing Program just finished the nymphal Blacklegged Tick season, collecting and testing over 3,000 ticks. All the nymphs were individually tested for *Borrelia burgdorferi*, *Anaplasma phagocytophilum*, and *Babesia mictroi*. The infection rates observed were 29.3%, 9.7%, and 3.2% respectively. These infection rates are consistent with what has been seen in the past. The *Babesia* infection rates have doubled in both the nymphs and adult Blacklegged ticks in the past two years.

In addition to the Blacklegged ticks, the laboratory has tested all the American Dog ticks (1,887) and Lone Star ticks (1,087) for the presence of Deer Tick Virus. To date, no DTV has been found in those ticks. All the Asian Longhorned nymphs and adults (3,316) that were collected throughout the season will be tested for several pathogens and should be completed in the winter.

Submitted by Christian Boyer

#### North Carolina

The weather in NC this year has made for some an interesting season. In the foothills, we went from an extremely cool dry spring to an exceptionally hot dry summer. This dry spell continued until late July, when our afternoon thunderstorms finally returned. Where I live in the piedmont, I was able to have an *Aedes albopictus* free yard until the end of July. This is the first time in 20 years I have experienced a mostly tiger free yard. With all that dryness and heat, our flood plains mosquito populations have also been very light; most of the vernal pools in my county have been dry since March. I have one site adjacent to an elementary and middle school that is being flooded by a beaver dam. This site has produced over 10,000 *Cx. salinarius* and over 6,000 *Cx. erraticus* since June. This particular wetland has been challenging for me, as I am unable to access the whole site. *Cx. pipiens* complex numbers in the downtown area of Winston Salem this season have been a little over average and we have had two positive pools so far this season. Overall, we have had a light season, service requests have been down for Forsyth County this year, and I hope it continues to stay that way until winter.

Along our east coast in Brunswick County, most of the service requests have been located around known habitats. Container breeding species are making up the majority of these complaints, these are resolved through education and tip and toss. Salt marsh broods are ebbing and flowing with rainfall events but overall these populations have remained on the low side. The flood plains are dry and the heat is keeping most folks inside where mosquitoes are not. Their mosquito complaints have been remained steady throughout the season.

In Transylvania County (Western North Carolina), they have experienced an exceptional season in some areas with Asian Tiger Mosquitoes, catching more than a 100 adults an evening one particular BG trap. Our mountain county has also been working on pesticide resistance studies with Dr. Stephanie Richards of Eastern Carolina University. Transylvania county staff submitted *Culex pipiens* complex and *Aedes j. japonicus* for bio bottle assay. Both these species have determined to have resistance to Malathion, Permethrin, Deltamethrin, Bifenthrin, and Naled. This is great work and we sure do appreciate this continued effort.

NC State Lab has just completed our first batch of arbovirus testing and found three positive pools (WNV) out of 32 total pools submitted. Two positive pools were found in Gaston County and One positive pool in New Hanover County. Our state lab will continue to test through October.

Researchers at UNC-Chapel Hill (<u>Dr. Ross Boyce</u>) and Western Carolina University (<u>Dr. Brian Byrd</u>) have recently started a La Crosse encephalitis prospective cohort study with Mission Hospital in Asheville. From a mosquito perspective, Dr. Byrd's team will conduct household mosquito surveillance and assess environmental risk factors. They will also enroll willing family members to assess their prior exposure to La Crosse virus. The goals of this project include increasing La Crosse encephalitis case recognition and improving methods to reduce disease risk.

#### North Carolina (cont.)

This year the North Carolina Mosquito and Vector Control conference will take place at the Courtyard Marriot at Carolina Beach, November 15-17. I have seen the draft agenda and it really looks like the conference is going to be awesome. We would love to see more folks from out of state attend our meetings so feel free to join us. Our conference registration can be located at the North Carolina Mosquito and Vector Control website at: WWW.NCMVCA.ORG

I would like to take a moment to thank all those around North Carolina that Provide me with this information. Thanks so much folks, I could not write this report without you.

#### Edit:

Today, 9/1/23, as I am finalizing this report, I would like to wish our friends on the Eastern Seaboard who are dealing with the results of Hurricane Idalia, the best of luck too you all. Be safe in your work, and be safe with all the flooding. I am glad this storm was so fast moving. God speed, I hope the water recedes quickly, and the larvae all dry up.

Submitted by Ryan Harrison

#### Virginia

In Virginia, the weather brought more than average rainfall early in the season, and an abnormally drier late season. Overall, localities have reported lower than average mosquito populations, with *Ae. albopictus* and *Cx. salinarius* populations making up the majority of the collection. Thus, ULV spraying operations are also lower than usual with the exception of a few localized cases. Salt Marsh numbers have also been exceptionally low this year so far giving a sigh of relief to localities that greatly affected by the habitat.

In the counties and cities that have reported, there have been 2041 pools tested for West Nile virus, Eastern Equine or a combination of the two for a total of 37 positive pools (12 WNV, 25 EEE). A total of 5 sentinel chickens have tested positive for Easter Equine encephalitis.

Reports seem to show that localities have taken the light season in stride with increased outreach and education and increased focus on larvaciding efforts.

The Virginia Mosquito Control Association is looking to hold its annual conference next year at the Hilton Virginia Beach Oceanfront on February 20-22, 2024. Information and registration for the conference can be found at <a href="https://www.mosquito-va.org">www.mosquito-va.org</a>.

Submitted by Tim DuBois

#### West Virginia

For mosquito-borne diseases, there have been three travel-associated human malaria cases, two La Crosse human patients, and one human case with West Nile virus infection in 2023 (as of August 30). In 2022, four travel-associated malaria infections in humans and two La Crosse encephalitis human cases were detected in West Virginia.

For tickborne diseases, there have been 939 human cases of Lyme disease, 15 human ehrlichiosis cases, 10 human anaplasmosis cases, and 7 human patients with spotted fever group rickettsiosis in 2023 (as of August 30). In comparison to the rest of the state, the density of the blacklegged tick (*Ixodes scapularis*) nymphs was lower in the low Lyme disease incidence counties in southwestern West Virginia. Most human ehrlichiosis and human spotted fever group rickettsiosis cases were localized to southwestern West Virginia, a region with populations of the Gulf Coast tick (*Amblyomma maculatum*) and high densities of the lone star tick (*Amblyomma americanum*). In 2022, there were 2449 human cases of Lyme disease, 12 human ehrlichiosis cases, 12 spotted fever group rickettsiosis human patients, 6 accounts of human anaplasmosis, and one ehrlichiosis/anaplasmosis human case.

The West Virginia Tick Surveillance Program focused most tick monitoring activities to central West Virginia in 2022. Central West Virginia is an emerging front for Lyme disease. Active tick surveillance activities focused on collecting the blacklegged tick (*Ixodes scapularis*), tick vector for Lyme disease (*Borrelia burgdorferi*), using the tick drag method. Although tick sampling was conducted throughout the year, most monitoring occurred during *Ixodes scapularis* nymph and adult emergence. *Ixodes scapularis* nymphs were submitted to the Centers for Disease Control and Prevention for human pathogen testing for Lyme disease (*Borrelia burgdorferi*, *Borrelia mayonii*), hard tick relapsing fever (*Borrelia miyamotoi*), human anaplasmosis (*Anaplasma phagocytophilum*), and human babesiosis (*Babesia microti*). Many counties in northwestern West Virginia had *Ixodes scapularis* nymph populations with >20% *Borrelia burgdorferi* infection rate. Counties in northern West Virginia had >10% *Borrelia burgdorferi* infection rate in their *Ixodes scapularis* nymph populations.

In 2023, the West Virginia Tick Surveillance Program was able to monitor a large area for ticks with the assistance of three local health departments across the state (Cabell-Huntington Health Department, Kanawha-Charleston Health Department, Monongalia County Health Department). Thirty-seven localities in 20 counties in West Virginia were actively surveyed for ticks including the blacklegged tick (*Ixodes scapularis*), the lone star tick (*Amblyomma americanum*), and the Asian longhorned tick (*Haemaphysalis longicornis*). In the higher elevations in northeastern West Virginia (>1000 m), *Ixodes scapularis* nymphs were still very active through the middle of August. Although the lone star tick has been found throughout the state, high densities of *Amblyomma americanum* are still limited to southwestern West Virginia.

West Virginia hosted the National Scout Jamboree from July 19-28 at the Summit Bechtel Reserve in Mount Hope, West Virginia. The event increased the number of visitors to Fayette, Raleigh, and surrounding counties. Unfortunately, this area is also a high La Crosse encephalitis incidence region. Larvicide was applied to mosquito breeding sites at the Summit Bechtel Reserve before the National Scout Jamboree event. Active tick surveillance was conducted before the event. Participants of the National Scout Jamboree submitted ticks encountered at Summit Bechtel to the state public health entomologist.

# MAMCA Sustaining Members

A special thanks to our 2023 Sustaining Members without whose generous support these meetings would not be possible.





Agricultural & Environmental Solutions



























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