



The Biting Times

MARCH 2024

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President's Message



Hi everyone! My name is Avian White, and I am excited to serve as the 59th President of the North Carolina Mosquito and Vector Control Association (NCMVCA). I am a Teaching Instructor at East Carolina University, teaching classes in Environmental Health and Public Health. I enjoy working with students, opening their minds to the world of vectors and public health pests. My students get a kick out of my “guess the number of mosquitoes in the petri dish” game that we play in class. Getting the next generation involved in what we do is something I am passionate about. I am always blown away when I meet and work with everyone in vector control, particularly when I go out into the field (even those times I have gotten eaten up by mosquitoes). One thing this association has shown me is vector control is a partnership. When I see the partnerships we have with and between vector control programs, private sector programs, university partners, and industry partners; I'm not only amazed, but I know we are in great hands.

I'm excited to announce our new Vice-President Abram Young, Brunswick County Vector Control Supervisor. Many of you who know Abram, are aware of his commitment to vector control. I look forward to seeing what he has planned for the 2024 NCMVCA Annual Conference, to be held this year on November 18-20, at the DoubleTree Hilton in Atlantic Beach, NC. There will be lots of great speakers, food, and networking events.

The NCMVCA is fortunate to be part of a valuable community and are committed to helping deliver resources to help in our collective endeavor to keep our communities safe. As part of this effort, this year the NCMVCA is planning to hold a 2-day beginner and intermediate mosquito identification course on May 21st and May 22nd in the beautiful mountains of North Carolina. During this training course, led by Dr. Brian Byrd, participants will receive intense, dedicated training on mosquito ID. We hope this will be helpful and “just in time,” as we will be in the midst of another exciting mosquito season. Be on the lookout for the registration link to this amazing class.

I want to thank everyone for all that you do. Our association is successful because of you and your participation.

Thank you,

Avian White DrPH, MSEH



NCMVCA 2-day Adult Mosquito Identification

Dates: May 21st and May 22nd, 2024

Location: Environmental Health Sciences Program, Western Carolina University, 3971 Little Savannah Road, Cullowhee, NC, 28723

Instructor: Dr. Brian Byrd

This beginner/intermediate course serves as an introduction to the identification of adult female mosquitoes common in North Carolina. Participants will learn key features to identify major mosquito genera (primarily focused on genera of public health/mosquito control importance — *Aedes*, *Anopheles*, *Culex*, *Culiseta*, *Psorophora*), other minor genera, and the 12 most common mosquito species found in North Carolina.

Registration costs **\$180** for those who will bring their own microscope and light source (max. 8 seats) and **\$200** dollars for those who will not (max. 8 seats).

Click [HERE](#) for Registration Form

Important Notice!

Sustaining Membership Fee Update

NCMVCA Members,

The NCMVCA Board proposes to raise the annual “sustaining” membership fee from **\$350** (cost since 2016) to **\$450** to continue to support our annual educational conferences as venue/food prices continue to rise. This fee is similar to sustaining membership fees at other mosquito control associations (e.g., Virginia Mosquito Control Association: \$650 and Mid-Atlantic Mosquito Control Association: \$650). At the NCMVCA, the sustaining membership fee includes conference registration for one industry representative, booth reservation to display product information at annual conference, contact information with company information displayed on the NCMVCA website and conference program. The annual “regular” membership fee is \$20 and will not change. The change to the sustaining membership fee will be voted on during the business meeting at the November 2024 annual conference in Atlantic Beach, NC.

Thanks,
Stephanie Richards
NCMVCA Treasurer





SAVE THE DATE:

NCMVCA Annual

Conference

Location: DoubleTree Hilton in
Atlantic Beach, NC

The NCMVCA Annual Conference will be held in Atlantic Beach, NC at the Double-Tree Hilton from November 18th through the 20th of 2024.

Hotel accommodations can be reserved now for \$109/night for ocean view through October 22nd, 2024.

We will apply for Pesticide and Registered Environmental Health Specialist continuing education hours for this event.

Abram Young is the NCMVCA Vice-President and in charge of the program this year, if you are interested in presenting at the conference please contact him at abram.young@brunswickcountync.gov.

We hope to see you there!

See the next page for registration form!



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NC Mosquito and Vector Control Association Conference November 18-20, 2024

DoubleTree Hilton, 2717 W Fort Macon Rd, Atlantic Beach, NC 28512 (Phone: 252-240-1155)

[Conference hotel reservation link \(for discounted rate\)](#) or call the hotel and book using group code “CDT-919”.

Book by 10/22/24 so we can include you in our group; Room Rate of \$109/night (ocean view)

Breakfast is provided on Days 2 and 3; Lunch is provided on Day 2

Confirmation of conference registration will be emailed to you upon receipt.

If you have questions about your membership status, please check with Stephanie Richards (richardss@ecu.edu).

<u>Registration</u>	<u>Registration deadline (preferred)</u>	<u>Late or Onsite Registration</u>
	<i>(Received on or before 10/22/24)</i>	<i>(Received after 10/22/24)</i>
NCMVCA Member (includes regular membership for 2025)	\$150	\$175
Non-Member (includes regular membership for 2025)	\$170	\$195
One Day Registration Only	\$100	\$125
Student (includes regular membership for 2025)	\$40	\$65
Lifetime Member	Free	Free
Vendor Sustaining Membership (for 2025)	\$350	\$400
Vendor Additional Sponsorship (optional)	\$ _____	
		Total: \$ _____

Name: _____

Email Address: _____ **Phone Number:** _____

Employer: _____

Mailing Address: _____

Method of payment: Check (payable to **NCMVCA**) Invoice required Credit card (see link for online payment below)

Card number: _____ **Expiration date:** _____

Code on back of card: _____ **Billing zip code:** _____

Mail or Email Completed Registration Form and Payment to:

Dr. Stephanie Richards (NCMVCA)
 3403 Carol Belk Building, 300 Curry Court
 Greenville, NC 27858

Email: richardss@ecu.edu ; Phone: 252-328-2526

[Click here to register for the NCMVCA conference](#) and pay online via Square
 More information is available at www.ncmvca.org (click the “Annual Conference” tab).

Vendors requiring electrical connections should contact Stephanie Richards (richardss@ecu.edu; 252-328-2526).

NCMVCA vendor liaison is Sydney Brogden (sbrogden@clarke.com).

MAMCA's Annual Conference

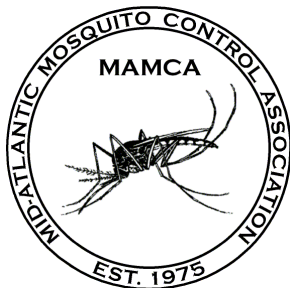
The 49th annual Mid-Atlantic Mosquito Control Association (MAMCA) held this year in Annapolis, Maryland went off without a hitch. The attendance was high and the subject matter covered in the conference was awesome to take in. There is just so much incredible research going on in the mosquito world right now. We had a great mix of presentations from all nine states that are within the Mid-Atlantic region. If you are unaware, the Mid-Atlantic region consist of the following states: North Carolina, South Carolina, Georgia, Virginia, Tennessee, Maryland, Pennsylvania, and Delaware. I have to say that one of the things that impresses me the most about attending these regional meetings is how different each state operates. The MAMCA conference is a fantastic opportunity to learn from a vast knowledge base with hundreds of years of combined wisdom in our field. Every MAMCA meeting I attend I learn a lot and have new ideas that I can take back to my own program in Forsyth County. I would really recommend the meetings they present such a great opportunity to learn. I suspect these presentations from the meeting will be posted soon to the MAMCA webpage, I recommend that folks check them out. If I had one take home message for everyone, it would be to make yourself familiar with the new EPA regulations regarding the Bulletins Live Two web page. These regulations are going to be affecting us all very soon! Within the next few years! Here is a web page link for you all to check it out: [Bulletins Live! Two -- View the Bulletins | US EPA](#)

Next year, 2025, will be the fiftieth anniversary meeting for the Mid Atlantic Association. This conference is being held February 4th - 6th, 2025 in Newport News, Virginia. Since this meeting will be the 50th anniversary we are expecting a pretty big turnout. I really hope to see more representation from NC next year. In 2026, the meeting will be in Tennessee and in 2027, we will see the MAMCA conference come back to NC.

I know I can count on everyone being at that one!!

Thanks for letting me represent the NCMVCA at these meetings,

Ryan Harrison



SAVE THE DATE:

MAMCA's 50th Anniversary Conference

Location: Newport News, Virginia - Marriot

Dates: February 4th-6th, 2025

Learn How to Become an Advocate!

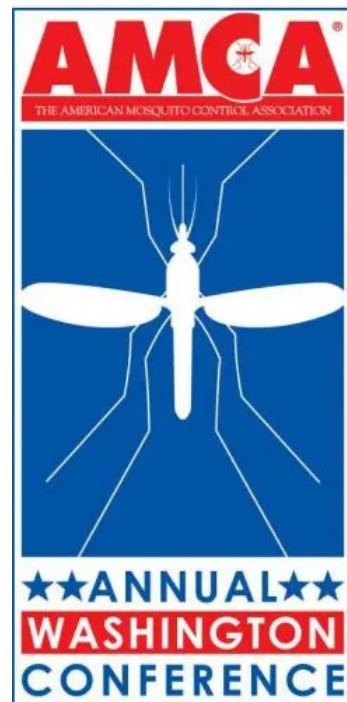


Annual Washington Conference

One of the largest mosquito control advocacy events will be held in Washington D.C this year **May 13th - 15th, 2024**. The AMCA and NCMVCA encourages its members to participate to aid in communicating the need for vector-borne disease prevention and control programs to be sustainable.

A hotel group rate has been secured for \$253.00 per room, per night at the Hilton Alexandria Old Town. This is the official AMCA headquarter hotel for the conference. Reservation deadline is **April 21st, 2024**.

For more information on prior informational meetings, available travel stipends, and registration, click [HERE](#).



The “Mid-Atlantic Key” - unlocked and unrestricted

Brian Byrd, PhD, MSPH

Western Carolina University



The Mosquitoes of
the Mid-Atlantic Region:
An Identification Guide

Bruce A. Harrison
Brian D. Byrd
Charles B. Sither
Parker B. Whitt



Winter and early spring are often times when we get to make plans for the next field season. For some of us it is also time to “catch up” on those mosquito specimens you put aside during the busier months. In our lab we have a small pile of petri dishes of unpinned mosquitoes waiting to be curated, boxes of pinned mosquitoes waiting to be appropriately labeled, and we have some



trays with notes like “look at little closer at these” or with “?” on label tape. Recently, I spent quite a bit of time digging through Darsie and Ward’s *Identification and Geographical Distribution of the Mosquitoes of North America, North of Mexico* (2005) struggling to identify snowmelt *Aedes* collected in the Sierra Nevada mountains last year. It was tough! For some, I “cheated” — and used DNA sequences to identify them. In some cases, even this wasn’t enough as there are identification errors in the genetic databases. Alas, I am still digging through different species descriptions and identification keys to help me. Boy, do I appreciate a good mosquito key!

I’m a little biased, but speaking of good mosquito keys...in 2016, *The Mosquitoes of the Mid-Atlantic Region: An Identification Guide* was published by Bruce Harrison, myself, Charlie Sither, and Parker Whitt. Included in this spiral bound guide were keys to adult and larval mosquitoes from Georgia to Pennsylvania. By all accounts, the “Mid-Atlantic key” was a huge success. Within five years, approximately 800 keys were sold to biologists and mosquito control professionals working in areas extending far beyond the Mid-Atlantic region.

The key was created thanks to funding from Duke Energy. The funds were managed by the NCMVCA and were used to pay the graphic illustrator (Charlie Sither — now a PhD Candidate at NC State) while he was an undergraduate student at Western Carolina University. In addition, the grant funds were used to pay for the cost of the first printing of the key. Other than the student illustrator, the authors received no payment for the key. The NCMVCA has sold keys since 2016 and during this time all the proceeds went to the NCMVCA in part to fund a “Bruce Harrison Research Fund” that was created to support students conducting mosquito taxonomy work.

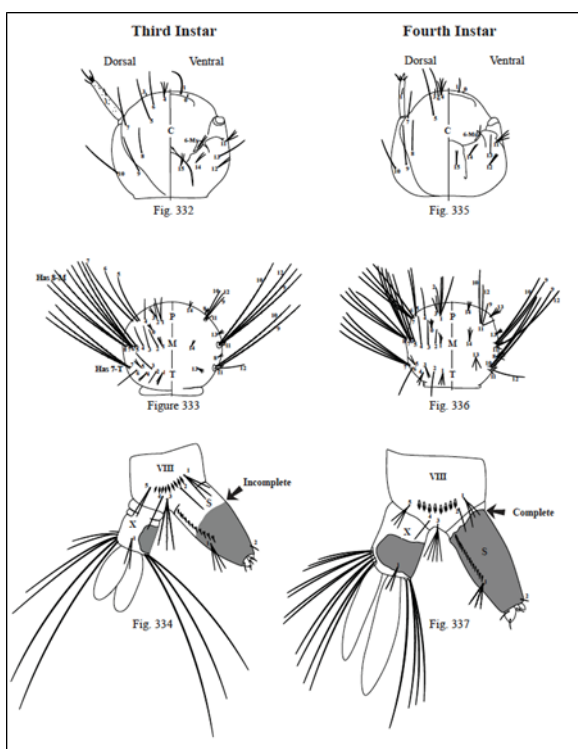
In November of 2023, the last of the printed “Mid-Atlantic keys” were finally sold. So, if you currently own the key, you are in good shape. If you don’t have the key, what should you do? Your main option is to use a PDF version. This PDF is a free download and can be accessed here: <http://tinyurl.com/MidAtlaMosKey>

On more than one occasion I’ve seen students and technicians using the PDF on a tablet — highlighting different morphology and making notes (in text bubbles) on the side. I’m “old school” so I still like a printed book. However, the “Mid-Atlantic Key” is more than 200 pages long, so if you are going to print it — make sure the boss isn’t around! In addition to Staples or FedEx print shops, there are “print on demand” services available online that you may consider — especially if you want it printed on higher quality paper and want to have it bound. However, you may end up spending \$45-\$65 to get the key printed professionally.

At present, we don’t plan on printing another batch of the Mid-Atlantic keys anytime soon. Our rationale is threefold: 1) there is a free PDF available, 2) the rate of key sales has declined during the past couple of years, and 3) we anticipate changes in mosquito distributions (both native and invasive species) to impact the Mid-Atlantic region during the coming years. The plan is to update the key in the next 5-10 years (depending on what Mother Nature sends our way) and then offer printed editions again.

I do want to share one other feature of the “Mid-Atlantic key” — all the images in the key are vector graphics created with Adobe Illustrator. We have more than 600 image files (.ai files = see figure) that were created for this key. All of the images are also freely available! You can use them and edit them or arrange them to make your own key(s). Please reach out to me directly (bdbyrd@wcu.edu) if you wish to access these files.

The Mosquitoes of the Mid-Atlantic Region: An Identification Guide was a group effort — as documented in the guide’s original acknowledgments. Thanks again to everyone who contributed mosquito samples and distribution data. Creating the key was truly a long-term labor of love by Dr. Bruce Harrison (1937-2018). I believe that the illustrations in the key are outstanding, but the bionomic/taxonomic notes, plethora of “secondary characters” and state records really make the guide a “must have” for any serious mosquito control professional in the Mid-Atlantic region. Download yours soon!



Legislative Committee Update

Meredith Spence Beaulieu

NCMVCA Legislative Chair

As you're likely aware, 2024 is an election year. This unfortunately means that most legislative activities are expected to be stalled, as attention is inevitably shifted toward the upcoming election and away from governing responsibilities.

Despite having entered Fiscal Year 2024 (FY24) last July, we still do not have FY24 appropriations at the federal level. A government shutdown has been avoided by a series of continuing resolutions (which fund agencies at last year's funding levels), with the current funding extensions set to expire by mid-March unless an additional continuing resolution or an appropriations bill is passed before then. Topline funding levels for FY24 appropriations have been negotiated but not publicly released. While we cannot be certain until the numbers are released, we are not expecting a great year for non-defense spending, so agencies relevant to the mosquito control community (including CDC) are not likely to see much growth in their funding. We are also in the midst of the FY25 appropriations process, with the president's budget request and agency requests both expected to be announced in March.

In other legislative news, the Farm Bill — which has many implications for mosquito control, including state pesticide preemption, pesticide labeling, permits for pesticide applications, and more — is also operating under a continuing resolution through September. There are still no drafts of the bill released from either the House or the Senate. FY24 appropriations being pushed back so much is impacting this process, as there is not enough floor time to discuss the Farm Bill amid the continued appropriations discussions. It is looking unlikely that a fully reauthorized Farm Bill will come to pass in this Congress.

In agency news, CDC has released the [*National Public Health Strategy to Prevent and Control Vector-Borne Diseases in People*](#). The strategy sets forth four major public health outcome goals in the US: 1) eliminating deaths from Rocky Mountain Spotted Fever in Arizona tribal communities by 2025, 2) reducing the number of lab confirmed Lyme disease cases 25% by 2035, 3) eliminating sustained local spread of dengue by 2035, and 4) reducing the annual number of West Nile virus neuroinvasive disease cases to below 500 by 2035. The document also presents 15 challenges to addressing vector-borne diseases and meeting these goals. Challenges include limited surveillance, a lack of interconnected quality data, limited prevention and control measures, and limited capacity to respond to threats — all things that we as vector control professionals can contribute to addressing, provided we have adequate funding, infrastructure, and other forms of support.

This brings me to my final update: the [American Mosquito Control Association \(AMCA\)'s Washington Conference](#) — their annual advocacy event where mosquito control experts (you!) can share the importance of what we do and the things we need to do it better — is coming up on May 13-15, 2024. Please consider attending! Sharing your stories and perspectives with your legislators can really make a difference in policy actions, and now is a great time to capitalize on the CDC's vector-borne disease strategy to accomplish our advocacy goals. AMCA is great about supporting new conference attendees throughout the process. You'll be briefed on important issues, get tips on how to have a successful visit with legislators, receive support in setting up appointments, and can even shadow along with experienced attendees to get comfortable with the process. Travel stipends are available through AMCA, with an application deadline of March 29th (more details on the conference page, [here](#)). NCMVCA typically also has some funds available to support representation of our state at this conference; [contact me](#) for more details if interested.

To stay up to date on legislative and regulatory issues relevant to the mosquito control community, I wanted to point you to a couple resources through our national societies that are accessible even if you aren't a member: 1) [AMCA's quarterly newsletter](#), which has a "Swamp Gossip" section focused on federal affairs, and 2) Entomological Society of America's [Medical, Urban, and Veterinary Entomology \(MUVE\) Section bimonthly newsletter](#), which has a "Policy Corner" that dives into a topic of interest. And of course, you can always feel free to contact me at meredithspence@gmail.com with any questions or ideas for topics that NCMVCA should be advocating on.

Please consider attending the AMCA Washington Conference, and let me know if you decide to! I am also seeking at-large members for the NCMVCA Legislative Committee. Since I am an academic, it would be particularly helpful for me (and the society!) if any mosquito control professionals with more boots-on-the-ground knowledge of issues at the state level would be interested in joining the committee to help shape our advocacy efforts. I hope to hear from some of you soon, and look forward to seeing you at the Washington Conference in May!



Member Spotlight: Abram Young

- **Tell us a little about yourself!**

I am the current Vector Control Supervisor for Brunswick County Operation Services. I was born and raised in Brunswick County. My wife Lindsay and I have an 8-year-old son Liam. I hold a turfgrass management degree from Brunswick Community College and a degree in Public and Non-Profit Administration from UNCP.

- **How did you get started in the mosquito control industry?**

I have a background in turfgrass management/horticulture. Mosquito control was an added duty at a private garden I worked at in my early 20's. I came to work at Brunswick in 2014 for Jeff Brown (mosquito control) and Freddie Hickman (water management). Rick Hickman, a former Vector supervisor, was still volunteering at that point. It was an interesting job, hard hot work and not every day was the same. Brunswick County allowed me to excel in this field and it has given me the opportunity to better service my community.

- **Where do you see yourself in 5 years? What advice would you most like to impart on the next generation of mosquito and vector control professionals?**

In 5 years, I hope I'm continuing my career with Brunswick County. For young professionals, mosquito control can be a challenging and rewarding field and it is a small field consisting of the same people. Don't be afraid to ask questions, reach out for help or start a conversation. All of us in the field try to help each other and learn from each other.

- **What is your favorite tool used for your job and why?**

For myself, I think the dipper is one of the most important tools. Mosquito control starts with surveillance. It's a conversation starter. A tech can quickly sweep/dip an area and get a feel for what is going on and how they need to move forward with the request. Also, it helps as a visual aid for citizens to see larva and understand where the mosquitoes are coming from.

Call for Submissions!

Dear NCMVCA Members,

I hope everyone is well, and successfully gearing up for the mosquito season ahead! As the current NCMVCA Secretary, I am excited and honored to step into the position of Editor-in-Chief for The Biting Times.

Our annual conference provides a great opportunity to gather, share ideas and practices, and discuss the latest advancements in our field. While a lot of information is shared, we understand that not all important presentations and insights are included due to the time frame of the conference. Your input is valuable to us! We encourage all of our members to contribute to the upcoming editions of the newsletter by contacting me at amanda.morrison@pittcountync.gov. A few examples of articles/items to submit include workshop and event announcements, research findings, or new practices your program is implementing.

Please feel free to contact me with submissions or questions!

Thank you,

Amanda Morrison

NCMVCA Secretary, Editor-in-Chief



Editor-in-Chief: Amanda Morrison

Contributors: Avian White, Meredith Spence Beaulieu, Brian D. Byrd, Stephanie L. Richards, Abram Young, Amanda Morrison

Images: Brian D. Byrd, Abram Young, Avian White, AMCA, NCMVCA, MAMCA,



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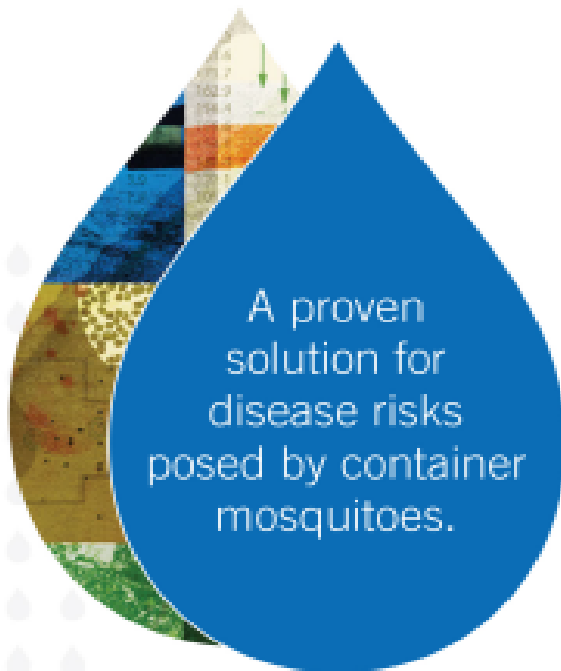
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- Journal of the American Mosquito Control Association
- Proceeding and Papers of the Eighty-first Annual Conference of the Mosquito and Vector Control Association of California
- United States Department of Health and Human Services/Centers for Disease Control and Prevention

11

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