Wow, it is hard to believe it is August! The steady rain has kept most of us busy again this spring, the virus isolations for WNV and EEE are starting to come in with the summer heat – let’s hope for a cooler end to summer (I wouldn’t Count on it).

It is my pleasure to let you know what your board is up to; the VMCA board is working hard on our annual meeting next year in Portsmouth and will begin to plan for the pesticide recertification class held every January.

Virginia was also selected as a hub for the CDC mosquito training program for communities that are interested starting a vector control program – stay tuned for dates and locations…..

And as always get involved, please see the attached list of committees; think about getting involved in your association! Please contact the committee chairs if you wish to participate.

-Jeff Hottenstein

Jeff Hottenstein
VMCA President
2017

Volume 77, Issue 3

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Upcoming Meetings

SOVE 2017 International Congress
October 1-6, 2017
Mallorca Island, Spain

PESTWORLD 2017 (NPMA)
October 24-27, 2017
Baltimore, MD

ESA Entomology 2017
November 5-8, 2017
Denver, CO

Purdue Pest Management Conference
January 8-10, 2018
W. Lafayette, IN

71st Annual VMCA Meeting
January 23-25, 2018
Renaissance Hotel, Portsmouth, VA

NCMVCA/MAMCA Joint Annual Meeting
February 12-14, 2018
Carolina Beach, NC

AMCA Annual Meeting
February 26-March 2, 2018
Kansas City, MO

Save the Date!

Virginia Mosquito Control Association
71st Annual Conference
Portsmouth Renaissance Hotel
January 23-25, 2018

Have information on a meeting that may be of interest to VMCA members? Attend a meeting and want to submit a summary? Please send it to the Editor!

VMCA Organizational Mailing Address

Virginia Mosquito Control Association
Penelope Smelser, Secretary/Treasurer
2600 Tarrant Street
Norfolk, VA 23509
Phone (757) 683-8662
Email: Penelope.Smelser@norfolk.gov

What’s that?

answer on page 11
VMCA’s 2017 Larval Identification Course

In April 2017, VMCA held its first larval identification course since 2009. This two day course was taught by Dr. Bruce Harrison and held at City of Suffolk’s new training facility. Seventeen students from around Virginia came to learn about and/or brush up on their larval skills. With the help of VMCA members collecting specimens throughout the 2016 and 2017 seasons, we were able to provide over 30 species for the students to look at. With the knowledge and skills learned during this course, VMCA has assimilated a new generation of biologists that can now take on both adult and larval surveillance.

I want to send out a huge thank you to Dr. Bruce Harrison for taking his time to come up to Virginia to teach his passion, Lauren Lochstampfor for helping collect many of the specimens used in the course and for coming down to Suffolk to help assist with the course itself, Charles Abadam for taking on the recording of the presentations (stay tuned for these results), VMCA for allowing this course to come together, and VMCA sustaining members (ADAPCO, Central Life Sciences, Clarke, and Morrell) for their sponsorship. We all made this course possible.

Written By Jay Kiser, Photography by Charles Abadam
The VMCA sponsored a free adult mosquito identification course held May 8 and 9. Nineteen students attended the 2 day course held on a Monday and Tuesday. The course was taught by the combined efforts of several mosquito district biologists that included; Tim DuBois, Jay Kiser, Karen Akaratovic, LaToya White, Lisa Wagenbrenner, Jennifer Barritt, Penny Smelser and Michelle Slosser. Their expertise and time were greatly appreciated.

The VMCA would like to thank our Nikon representative, Chris Hatcher, for setting up some great microscopes. Please keep him in mind for your microscope needs. His email contact is chatcher@morrellonline.com.

The VMCA would also like to thank Suffolk Mosquito Control for the use of their facility with an awesome training room located at 800 Carolina Rd. The reviews indicated everyone really enjoyed the use of the training room.

Surveys were provided to the participants and 17 were returned. Each parameter received a total count of 17 (consisting of # of votes for excellent, good, fair, and poor).

**General comments:**

- Informative, useful and interesting
- Would recommend this course to anyone in this field.
- Comfortable learning environment
- Extremely helpful for practicing use of microscopes
Hampton’s Marbled Salamander Study

The Hampton Environmental Services division has added another project in an effort to increase its environmentally sound pest control practices; bio rational observations of indigenous mosquito predators in vernal woodland pools. The initial push to gather data on salamander larvae into our program was conceived by manager Chris DeHart. A long-time nature enthusiast had a great amount of knowledge when it came to aquatic and terrestrial macro-invertebrates and was looking to include a small program that could be done in the early spring and summer months that would give the division an idea of the health of Hampton’s bio rational environment. With Hampton having a majority of its landscape covered in concrete or impervious surface and most neighborhoods compressed together with little green space between homes, one would imagine that when it comes to aquatic macro-invertebrates, Hampton wouldn’t have a thriving population. Fortunately initial surveys have indicated a healthy amount of these critters living in undeveloped areas, some even a little closer to the bustling business section of Coliseum Central than one would think.

While this program was simple enough to get off the ground within the division, much work was done behind the scenes to make sure that we adhered to state and federal laws and followed industry cleanliness standards for amphibian safety. A formal request was sent to the Virginia Department of Game and Inland Fisheries (VDGIF), followed by detailed scientific plan of when, where and why we wanted to conduct the survey, what species were to be surveyed, what types of collection methods would be utilized, who was allowed to collect and qualifications did they possess. After all was said and done, we were approved for two years of observation for larval and adult *Ambystoma opacum* salamanders and all aquatic insects. The permit also covers *Gambusia holbrooki* for capture and relocation which when used correctly can bolster our bio rational program as well.

Ambystoma opacum or Marbled Salamander adult.
The 2017 season was the first season with the new program in place, and although not as many sites were observed as planned, we did manage to find larvae and began tracking data. Initial data recorded is GPS location, pH, water temperature, whether or not mosquito larvae are present in the same habitat, and any other type of aquatic invertebrate found and of course salamander larvae quantity. Surveys of potential sites were done beforehand by desktop and past field observations. The inspections themselves ranged anywhere from a half hour to a few hours, depending on the size of the site, if high numbers of larvae were present and difficulty in adult salamander locating. So far, seven (7) favorable sites have been investigated, four (4) were positive for salamander larvae at the time of the study. Plans to investigate significantly more sites for the 2018 season are underway, with expansion into surveillance data on aquatic insect nymph and larvae focusing on Odonata order (Dragonfly and Damselfly).

Keep an eye out for these little guys while dipping for spring larvae in vernal pools and ditches. They are a great indicator of our aquatic environmental health and they may just assist you in mosquito control as well!

Ambystoma larvae found in Hampton in 2017.
Tidewater Mosquito and Vector Control Council (TMVCC) Update

The TMVCC is over half way through the season we are having a great year. Our May meeting was the “Rodeo” and Clarke Mosquito Control graciously calibrated foggers for eleven mosquito districts. According to many, this year’s was one of our most successful “Rodeos”. The June meeting was at Tucanos, sponsored by Ted Bean from Adapco, and Chris Honholt gave us a riveting presentation on The Navy Mosquito Control Operations. The July meeting was sponsored by Chris Hatcher from Nikon and George Wojcik spoke on the hot topic of Temperature and How it Affects Mosquito Control.

The TMVCC meeting in September will be a great chance to build up our relationship with our local tick experts from the ODU tick lab. PhD student and the 2017 VMCA Student Competition Award winner Alexis White will be with us to present great information about the “Tickbot” they’ve been working on for years. We are eager to meet with Alexis since we have been getting a lot more citizen questions about ticks and tick borne diseases this year. Keep in mind that TMVCC is always looking for more speakers and interest within the organization. Contact any of the board to find out opportunities to help.

Submitted by TMVCC President Mitch Burcham

Nominating Committee Seeks Candidates

VMCA’s Nominating Committee is seeking nominations for the 2018 VMCA executive board.

Are you or a VMCA member you know interested in being on the VMCA board? If so, please contact the Nominating Committee Chair, Joshua Smith (joshua.smith@fairfax-county.gov), with the name and contact information of your nomination. We are seeking nominations for the First Vice President and Secretary Treasurer openings on the 2018 Executive Board. The member voted into these positions typically moves up the ranks of the executive board each successive year; a five-year commitment.

VMCA needs the help of dedicated and enthusiastic individuals to keep our organization running great. For more information about the VMCA executive board and the duties of the board members, please refer to the Virginia Mosquito Control Association: Book of Guidelines for Board Members and Committees, available here.

Submitted by Nominating Chair Joshua Smith
On June 29th, we (Prince William County’s Mosquito & Forest Pest Management Branch, or MFPM) hosted our very first open house, affectionately dubbed “Bug Fest 2017”. Scheduled during Mosquito Awareness Week, Bug Fest was an opportunity to network with a wide array of stakeholders, including county executives and branch leaders, local non-profit organizations, conservation groups, and others, to increase the awareness of our program in the county and establish and reinforce mutually beneficial relationships.

Months of diligent planning in the making, Bug Fest offered guests the opportunity to explore our facility and see our program operate from the ground up. Activities included seminars on emerging vector-borne diseases, tick bite prevention workshops, larval mosquito hunts, repellent and adulticide demos, a polaroid photobooth (complete with a handmade *Aedes albopictus* mask), a mosquito sorting station, a gypsy moth egg mass hunt, and a display of our data management system. Guests walked between various stations in and outside of the building, and talked with staff about all facets of our IPM program.

It was a great way to spend Mosquito Awareness Week, and we hope to build on the event in the future (more masks to come)!

L: Rachel Kempf with her paper mache creations, M: Albopictus mask, R: Department Chief rocking the mask at the photobooth

Submitted by Rachel Kempf
You’re invited!

Bug Fest 2017
Hosted by Prince William County’s Mosquito & Forest Pest Management Branch

Thursday, June 29, 2017, 3-7 p.m.
14879 Dumfries Road
Manassas, VA 20112

Join the staff of MFPM for a fun afternoon of insect exploration! Learn about how we combat the mosquitoes, destructive forest pests, and vector borne diseases that threaten our county through a series of guided workshops, tours, displays, and more. Activities will include:

- Tick Bite Prevention Workshops
- Lab Tours
- Guided Tree ID Nature Walks
- Larvae Hunt
- Mosquito Management Demos
- Photobooth!

Light refreshments will be provided
Arrive any time between 3 and 7 p.m.

For more info, contact gypsymothmosquito@pwcgov.org or call 703-792-6279
The VMCA is successful because its members get involved in the operations of the association. Below are the current committees and their chairs. Please join a committee by contacting any executive board member listed on the last page of this edition of The Skeeter!

<table>
<thead>
<tr>
<th>Committee</th>
<th>Chair(s)</th>
<th>Members</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Meeting (Local Arrangements)</td>
<td>Tim DuBois</td>
<td>George Wojcik, Lisa Wagenbrenner, Ann Herring, Jamie Durden, Maggie Rivera</td>
<td>Decides location of future meetings</td>
</tr>
<tr>
<td>Annual Meeting (Program/Agenda)</td>
<td>George Wojcik</td>
<td>Randy Buchanan</td>
<td>Organize annual meeting program</td>
</tr>
<tr>
<td>Annual Meeting (Vendor Planning)</td>
<td>Ted Bean</td>
<td>George Wojcik</td>
<td>Vendor correspondence/setup</td>
</tr>
<tr>
<td>Audit</td>
<td></td>
<td></td>
<td>Annual audit of financial records</td>
</tr>
<tr>
<td>Bylaws</td>
<td>George Wojcik, Jay Kiser</td>
<td>Charles Abadam, Randy Buchanan</td>
<td>Bylaw revision/maintenance</td>
</tr>
<tr>
<td>Education</td>
<td>Lisa Wagenbrenner</td>
<td>David Gaines, Jay Kiser, Jennifer Pierce, LaToya White</td>
<td>Recertification, Adult ID course</td>
</tr>
<tr>
<td>Elections</td>
<td>Jeff Hottenstein</td>
<td>Penelope Smelser</td>
<td>Sets up online voting, sends out voter information, counts votes, announces winners during annual business meeting</td>
</tr>
<tr>
<td>Historian</td>
<td>Tim DuBois</td>
<td>Connie Hartsfield, Andy Lima, John Orr</td>
<td>Historical Archives</td>
</tr>
<tr>
<td>Hospitality Room</td>
<td>Ann Herring</td>
<td>Jay Kiser</td>
<td>Annual meeting hospitality room</td>
</tr>
<tr>
<td>Information</td>
<td>Tim DuBois</td>
<td>Karen Akaratovic, Jay Kiser, Justin Anderson, Rachel Kempf, Wes Robertson</td>
<td>The Skeeter, Facebook, Instagram</td>
</tr>
<tr>
<td>Legislative</td>
<td>Randy Buchanan</td>
<td>Betsy Hodson, Lane Carr</td>
<td>NPDES, VPDES, PESP</td>
</tr>
<tr>
<td>Membership</td>
<td>Penelope Smelser</td>
<td></td>
<td>Keeps updated list of membership</td>
</tr>
<tr>
<td>Merchandise</td>
<td>Tim DuBois</td>
<td>Lisa Wagenbrenner, Ann Herring, Maggie Jackson, Michelle Slosser, Andy Lima, Karen Akaratovic</td>
<td>Coordinating sales merchandise for annual meeting</td>
</tr>
<tr>
<td>Nominating</td>
<td>Joshua Smith</td>
<td>Michelle Slosser, Lauren Lochstampf</td>
<td>Finds candidates for election, prepares/gathers profiles of nominees for ballots</td>
</tr>
<tr>
<td>Photography</td>
<td>Charles Abadam</td>
<td>Jay Kiser, Maggie Jackson, Andy Lima</td>
<td>Takes photos of VMCA-related events for website, The Skeeter, Facebook, and Instagram</td>
</tr>
<tr>
<td>Public Relations</td>
<td>Rachel Kempf</td>
<td>Randy Buchanan</td>
<td>Mosquito Awareness Week/Outreach &amp; Education</td>
</tr>
<tr>
<td>Special Awards</td>
<td>Phil Meekins</td>
<td>Jennifer Pierce, LaToya White</td>
<td>Annual meeting awards– R.E. Dorer, Outstanding Service</td>
</tr>
<tr>
<td>Student Competition</td>
<td>Jay Kiser</td>
<td>Francis Valera, Charles Abadam, Karen Akaratovic, Dennis Salmen, Lane Carr</td>
<td>Organizes a student research/poster project competition with an award to be given at the annual meeting, raises funds for award</td>
</tr>
<tr>
<td>Technical Support</td>
<td>Charles Abadam, Jason Pevear</td>
<td></td>
<td>Maintains/advises on VMCA hardware/software; operates computer/projector during annual meeting</td>
</tr>
<tr>
<td>Website</td>
<td>Penelope Smelser</td>
<td>Lane Carr, Andy Lima</td>
<td>Maintains/revises website</td>
</tr>
<tr>
<td>Ad-Hoc 2022 AMCA Committee</td>
<td>Charles Abadam</td>
<td>Jay Kiser, Tim DuBois, Dennis Salmen, George Wojcik</td>
<td></td>
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</table>
What’s that? Answer

That’s a Tomato Hornworm (Manduca quinquemaculata), or more appropriately, the larvae form of the Five-Spotted Hawkmoth. Those white egg-like sacs are eggs of a parasitoid wasp of the Braconidae family. These parasitic wasps lay their eggs on a larval caterpillar or other larval stages of Coleoptera, Diptera, or Lepidoptera species. Most will kill the host, though some just tend to sterilize or make them less active.

This specific one was photographed in Downtown Suffolk at the home of Hampton Biologist Tim DuBois’ parents (don’t mind the old guy in the photo, that’s just my dad).

Submitted by Tim DuBois
**Virginia Mosquito Control Association**

New Membership & Member Renewal Application

<table>
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<th>MEMBERSHIP TYPE: ( ) RENEWAL ( ) NEW</th>
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Membership payment is by calendar year

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<th>Name:</th>
<th>Regular $ 15.00</th>
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<tr>
<td>Phone:</td>
<td>Associate $ 10.00</td>
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<tr>
<td>Address:</td>
<td>Student: *Enclose proof of student status $ 10.00</td>
</tr>
<tr>
<td>Email:</td>
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<tr>
<td>Organization:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total Submitted</td>
</tr>
</tbody>
</table>

Please “X” here if you cannot receive the newsletter by email [ ]

Questions or comments can be directed to Penelope Smelser, Secretary-Treasurer, 757-683-8662 or mail to: Penelope.smelser@norfolk.gov

Send payment (made payable to VMCA) and mail/fax this form to Secretary/Treasurer –or- fill out the form, save and submit by email.

Penelope Smelser
VMCA Secretary-Treasurer
2800 Tarrant Street
Norfolk, VA 23509
757-683-8662 office phone
757-683-2500 office fax

**Regular Member:** VMCA Newsletter, hold office, serve on committees, propose motions, vote, and participate in business meetings.

**Associate Member:** VMCA Newsletter, participate in business meetings.

**Student Member:** VMCA Newsletter, serve on committees and participate in business meetings.

(Student must be enrolled at least 1/2 time in an accredited college or university and produce valid College/University ID Card.)
Merchandise Sales Continue!

Didn’t get what you wanted at the VMCA annual meeting?
Weren’t able to attend due to weather, time, funding?

There’s still time to get all that mosquito swag you just have to have!

The Merchandise Committee is continuing to sell the items listed through local pickup or shipment. If you have any questions or are interested in purchasing something, please contact VMCA Merchandise Chair, Tim DuBois (tdubois@hampton.gov) AND VMCA Secretary/Treasurer Penelope Smelser (Penelope.Smelser@norfolk.gov). Payments can be made by cash (local pickup only), check, or credit card. Local pickups will be conducted at Hampton Environmental Services (419 N. Armistead Ave). Shipping will be paid by the purchaser and will be done through the lowest cost method (unless otherwise requested). This information is also available online.
The VMCA gratefully acknowledges the support of the following sustaining members for 2017. Without their generous contributions, much of what we do would not be possible. Please do not hesitate to contact them. They are here to help you!

ADAPCO, Inc
Ted Bean
(814) 671-6516
tbean@myadapco.com

AllPro Vector Group
Joe Andrews
(888) 603-1008
joea@allprovector.com

AMVAC
John Bruce
(940) 206-7338
johnab@amvac-chemical.com

Bayer Environmental Science
Gordon Morrison
(919) 452-7145
Gordon.morrison@bayer.com

Central Life Sciences
Jeff O’Neill
(302) 312-3950
joneill@central.com

Clarke
Jeff Hottenstein
(703) 498-9362
jhottenstein@clarke.com

Crabbe Aviation, LLC
Matt Crabbe
(804) 334-7370
crabav@gmail.com

Dynamic Aviation Group, Inc.
Kurt Friedemann
(540) 828-6070
kfriedemann@dynamicaviation.com

Frontier Precision, Inc.
Linda Glover
(208) 595-1196
linda@frontierprecision.com

Leading Edge Associates, Inc.
Bill Reynolds
(407) 469-0008
breynolds@leateam.com

Morrell Instruments Company, Inc.
Chris Hatcher
800-570-4277
chatcher@morrellonline.com

Mosquito Authority
Joey Osborne
(828) 308-2181
joey@bugsbite.com

Summit Chemical Company
Jonathan Cohen
(410) 522-0661
jcohen@summitchemical.com

UNIVAR USA, Inc.
Jason Conrad
(912) 704-1407
jason.conrad@univarusa.com

Valent Biosciences Corp.
Jim Andrews
(910) 547-8070
j.andrews@valent.com
As a result of revisions to the VMCA By-Laws, the organizational member category was eliminated. In order to facilitate communication among mosquito control programs, jurisdictions with known mosquito and vector control programs are listed below. If there are other jurisdictions that should be listed, please submit them to the editor.

### Virginia Mosquito Control Jurisdictions

- Alexandria Health Department
- Boykins, Town of
- Chesapeake Mosquito Control Commission
- Chincoteague Mosquito Control
- Fairfax County Health Department
- Fort Eustis
- Gloucester County Mosquito Control
- Hampton Environmental Services
- Henrico County
- Newport News Vector Control
- Norfolk Vector Control
- Poquoson Mosquito and Drainage
- Portsmouth Mosquito Control
- Prince William County Mosquito & Forest Pest Management
- Suffolk Mosquito Control
- US Air Force / Langley Air Force Base
- Virginia Beach Mosquito Control
- Williamsburg Mosquito Control
- York County Mosquito Control

### Other Mosquito Control Organizations

- American Mosquito Control Association
- Mid-Atlantic Mosquito Control Association

### Other Resources

- Virginia Department of Health
- Centers for Disease Control & Prevention
- Fairfax County Education and Outreach Materials

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**WANTED: SUBMISSIONS!**

Do you have information you’d like to include in the next issue of The Skeeter or a photo you’d like to share? We are always looking for organizational updates, operational news, education and outreach activities, pictures, stories, and anything remotely vector-related to include in upcoming newsletters as well as on Facebook and Instagram.

Please send all items to The Skeeter Editor: Tim DuBois at tdubois@hampton.gov
VMCA now has an Instagram account (@virginiamosquitocontrol)! The account is currently being piloted by Rachel Kempf of Prince William County’s Mosquito & Forest Pest Management branch, and will feature photos meant to foster community engagement, spread VCMA’s message across a broad range of audiences, and widen our social media reach.

Rachel is currently compiling a photo inventory for future posts, and would love for VMCA members to send her submissions for the page. Any pictures or short videos depicting mosquitoes, mosquito larvae, mosquito lookalikes, mosquito predators, habitats, sentinel chickens, field and lab staff at work, outreach and community events, general entomology, and cool finds out in the field are welcome and greatly appreciated.

Please email submissions to rkempf@pwcgov.org or tdubois@hampton.gov, follow and engage with us if you have an IG account, and help spread the word!

Top: Current IG photos
Bottom: Rachel Kempf of MFPM (with Wilson the Ball Python)