

**TEXAS MOSQUITO CONTROL ASSOCIATION
NEWSLETTER**

Volume 40	May	2020
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**R U READY FOR
WNV-20?**

Too Late

It is already here!

Ensure mosquito control programs are adequately staffed and funded to prevent mosquito-borne diseases so medical assets retain capabilities to serve and treat patients with other diseases or injuries.

Editor – William Sames

Contributors – Jimmy Garcia, Salvador Rico, Gabe Hamer, Jason Pitts, Nina Dacko

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Oct 2019-Oct 2020 Texas Mosquito Control Association Standing Committees

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Salvador Rico

Message from El Presidente Salvador Rico

The Next Generation: It Is Our Turn!

Greetings to all members of our Texas Mosquito Control Association and to our family, friends, acquaintances, sponsors & vendors! I'm glad to be able to communicate with you via this correspondence today. Do we have some topics today!

First, I would like to thank everyone for the incredible job you are doing not only for TMCA but for your respected place of employment! Whether you are on the front lines, doing your thing to help combat the COVID-19 (Coronavirus) or back at the job with the skeleton crew trying to maintain your original task. THANK-YOU!

It looks as if the COVID-19 pandemic has all of us busy at the moment. But let me, for a brief moment, give you a break...a well-deserved one at that! Many of us in the health profession have been called to help our residents in a much different capacity than we are used to. Some logistically, some formally while others have been asked to keep the place running in lieu of the staff shortage due to many of our colleagues being called to respond to the COVID-19 pandemic. For this Next Generation as well as the last, we have never just STOPPED as a nation to try to control a pandemic. Yes, sure, in times past, most outbreaks were observed but not combated as we are doing now. Orders (suggestions) from the Federal & State government to Stay Home as much as possible has seen many a large city/town almost like a ghost town with everyone staying indoors only allowed to get your provisions while trying to maintain Social Distancing of 6ft. while not trying to gather together as a crowd of 10 people or more. Never have we seen this & hopefully never will again.

Thankfully COVID-19 cannot be transmitted via the mosquito! Thank God many other viruses can't as well. For those viruses that can (WNV, SLE, Dengue, etc.), it keeps us busy for most of the year. If mosquitoes transmitted much more, I'd shudder to think how our world would be.

With the virus circulating as early as February, the AMCA (American Mosquito Control Association) for the first time in its history, cancelled its annual meeting that was to be held the 3rd week of March 2020 in Portland, Oregon. This cancellation came after the TMCA's Spring Workshop in McAllen, Texas. Fortunately, our TMCA workshop was well attended thanks to our Workshop/CEU's Committee Chair Sonja Swiger with assistance from Local Arrangements Chair Patrick Prather. (If you're interested in joining a committee please contact us at: <https://www.texasmosquito.org/membership-and-committees>)

In December 2020, the TMCA was going to have a joint meeting with the LMCA (Louisiana Mosquito Control Association). The TMCA Board of Directors were invited to attend the LMCA Board of Directors' tele/video conference meeting. It was decided that through the uncertainty of the COVID-19 situation and gauging that attendance would be poor (given that many travel bans have been put in place by various municipalities and parishes), that it would be in the best interest of all to cancel the joint meeting. Later, we will discuss having this joint meeting in 2022.

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The TMCA Board of Directors met to discuss this issue and they decided to cancel this year's annual meeting. For the first time, the TMCA will not conduct an annual meeting. The cancellation affected the Student Competition, member presentations, and interactions with meeting sponsors and vendors. But then again, there will be no bills to pay (expense of hotel payment). The disposition of awards and scholarships will be decided at the TMCA Board meeting July/August. As an organization, we will be financially OK. Our Workshop CEU & Local Arrangements Committees will meet to determine an agenda and future locations for our 2021 spring (March) & fall (October) meetings. Keep your eyes & ears posted.

Over the past year or so, there has been a major change over in leadership. The retirement of Dr. Rick Duhrkopf and Dr. Jeff Flosi, both of whom devoted much time and effort to support this organization, has left some Big Shoes to fill. Hence, we are entering a period where the Next Generation of TMCA leaders are emerging to fill the vacancies left by Dr. Duhrkopf and Dr. Flosi. While many of us through the years have been waiting patiently, I believe our time has come to lead. Prior to this our leaders were tasked to lead TMCA and keep it viable by assisting anyone with questions regarding mosquitoes or insects in general. In the meantime, many of us youngsters were just waiting in the wings wondering... Is it our turn, yet? Well, it is Time and there are plenty of opportunities to get involved in the TMCA! And what a time it is! During the COVID-19 Pandemic. Thankfully, our predecessors were not the kind to just feed us to the wolves or just toss us into the frying pan so to speak. Thankfully, they were working to transition their duties and remain available to provide valuable input (to which I am grateful as I am sure many of us are). And, as an association goes, it is only as good as the people who participate in it. Our board of directors and committee chairs are the best in the business and are reachable most of the time. We are fortunate to have experienced members who are willing to share their knowledge. Should you have a question relating to mosquitoes (or other vectors), please do not hesitate to ask any of us. If we cannot answer you, we will find someone who can best give you the answer or advice. Yes, it is our turn! Check us out Texas Mosquito Control Association <https://www.texasmosquito.org/> become a member of the best organization in the State of Texas.

*****Call for TMCA Board Nominations*****

Mike Nichols (Past President) is the Chair of this year's Nominating Committee and he is accepting membership input for the nomination and election of the TMCA Board of Directors offices for 2020-2021. Send nominations to info@texasmosquito.org ATTN Mike Nichols.

Per the TMCA By-Laws all positions are open for reelection except for President, President-elect, and Past President. For stability, only the Treasurer and Secretary positions can be held for multiple years.

For the past 10-20 years or more, the Nominating Committee has normally recommended everyone move up to the next higher position, which means after 6 years on the Board, they would be President, then Past President, then off of the Board. The Nominating Committee would bring in a new person each year.

In 2017, the procedure was changed, so that a person could serve in a 2-year Director Track or a 6-year Board Officer Track. This meant that the Nominating Committee would bring in 2 new persons each year and 2 persons (the Past President and a Director) would rotate off the Board.

TMCA Administrative Notes

Publishing in the TMCA Newsletter. The TMCA newsletter is a medium for getting information to TMCA members. Newsletter content is based upon contributions from TMCA officers and members, and whatever the editor can come up with to fill blank spaces and make the newsletter fun and informative. If you have information that would benefit TMCA members feel free to submit that information to the TMCA Editor. Normally, we print 4 issues per year with each issue coming out shortly after the quarterly Board of Directors meeting. Ideally, newsletters are published in January, May, August, and November. Photos and mosquito related humor are also welcomed. Have artistic talent? Consider drawing a design for the cover.

Advertise in the TMCA Newsletter. Advertising rates are \$50 for a whole letter-sized (8.5 x 11 inches) page ad. Half page ads are \$30 (8.5 x 5.5) Submit copy ready artwork in MS Word or PDF to the TMCA Editor.

American Mosquito Control Association Annual Meeting. 2020 Annual Meeting Canceled. 2021 information to be posted in November newsletter.

Joint TMCA/LMCA Annual Meeting. CANCELED. All TMCA/LMCA 2020 Annual Meetings are canceled due to COVID-19 concerns. **TMCA Business meeting via Video/Tele Conference will be held Tuesday, December 8th at 1:00 p.m.**

TMCA Committees. Interested in serving on a TMCA Committee? If yes, you may contact the Committee Chair **OR** go to the TMCA website and sign up online at <https://www.texasmosquito.org/membership-and-committees>. The sign up form is at the bottom of the page below the list of TMCA Committees.

COVID-19 Affects TMCA

Joint Annual Meeting Cancelled for 2020;

No Annual TMCA Meeting in 2020;

Annual Member Business Meeting in December via Teleconference

Annual Regulatory Requirements Change for 2020

As the world continues to adjust and work through this unprecedented COVID-19 pandemic, all Texans are being affected in their professional and personal lives. Social distancing is the new norm in efforts to lower the incidence of disease transmission and promote community safety but with these new guidelines, there comes change.

In order to promote safety and accommodate the rules set before us, the Texas Mosquito Control Association is also being affected and changes are being made to our standard practices. These changes include:

1. The Joint Annual Meeting between the Louisiana and Texas Mosquito Control Associations has been postponed until December 2022.
2. The TMCA Board of Directors met via teleconference and decided not to have a physical TMCA Annual Meeting in 2020 and therefore, no fall meeting will be scheduled.
3. The TMCA Board of Directors will continue to have their Board meetings via teleconference.
4. The TMCA informational platforms (Facebook, website, and newsletters) will still be functional and a place to look for information.

5. The 2020 TMCA Annual Business Meeting will be conducted via teleconference (all members invited) in December. The Business meeting will be held to conduct this year's election(s) and transition of officers and board members. When available the date and information pertaining to this meeting will be posted via TMCA information platforms.

While the TMCA has been affected, COVID-19 has not stopped or slowed mosquito development, and mosquito-borne diseases are still present in Texas and expected to follow their seasonal pattern. This is not a normal year and while we must be prepared for "routine" mosquito surveillance and control, like we have been doing year after year, we also must be looking for changes in human behavior that may lead to increased mosquito exposure.

For example, there has been a major shift in the normal activities of our citizens, which was to get up, go to work, eat at restaurants, go to entertainment venues, go home, stay inside, go to bed, and repeat the next day. Now, many are home most of the day and cannot do the things they once enjoyed doing. At this point, we do not know how their change in normal routine might impact mosquito-borne disease transmission.

If people are staying at home, will their exposure to mosquitoes and hence mosquito-borne disease be higher or lower than normal? Are more people playing or working outside in the evenings than they would have been if they had worked all day, came home, ate supper, and relaxed in front of the computer, smart phone, or TV? If yes, then their exposure to blood-seeking infectious mosquitoes may be greater. We must think about these changes and enact those things that might mitigate the concern before it is expressed as an increase in disease transmission. Therefore, we need to pay special attention to our mosquito surveillance and control this season, look for changes in the normal routine of people that may increase exposure and disease potential, and take action to modify our practices and mitigate potential exposures.

As COVID-19 circumstances change, so do the changes associated with the annual requirements for CEUs and the calibration of equipment. Dr. Sonja Swiger, Medical and Veterinary Entomologist, Texas AgriLife Extension, is the primary source of information regarding these changes, and for the latest information on annual legal requirements for mosquito control in Texas, visit the Texas AgriLife website at <https://agrilife.org/aes/> or Dr. Sonja Swiger's blog page at <https://rockerflydoc.blogspot.com/>.

In closing, this is not a routine mosquito season. It is affected by a world-wide pandemic and massive changes in the routine behavior of the human population that we serve. Look for changes in human behavior that may increase exposure to infectious mosquitoes and take action to mitigate those exposures before disease transmission can occur. Follow guidance from your local health authorities on COVID-19 mitigation, implement exceptional mosquito surveillance and control activities, and stay safe while protecting those around you.

TMCA Annual Business Meeting via Tele/Video Conference

With the annual meeting being canceled, there is still a need to hold the TMCA Annual Business meeting, which will include voting on TMCA Officer Positions and installation of those elected. This meeting will be held Tuesday, December 8th at 1:00 p.m. In November, the information on how to connect will be in the Newsletter, the TMCA Website, and Social Media pages. This meeting should last about one hour.

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Editorial

William Sames, Editor, TMCA Newsletter

As I write this article, the world is working through the COVID-19, coronavirus, pandemic. All of us have been affected in some form or fashion, and as we are seeing COVID-19 is spreading through close human interactions. In the all-out effort to reduce the effects of this disease, social distancing has become the norm.

Going through this disease process may not be easy, and it will have a significant impact on the lives of many. However, in the aftermath of COVID-19, life will go on. It may not be what we had in the past, but we will recover from its effects and move forward with revised life goals and objectives. As humans, we tend to learn from adversity. Perhaps, what we learn from the challenges of COVID-19 will help us prevent or mitigate future pandemics.

Even as we go through this, we have many things for which to be grateful. We have medical experts that can tell us about the disease (the type, how it is transmitted, how to prevent it, etc.) and can rapidly develop protective measures (treatment protocols, vaccines) to counter its effects. We have large numbers of persons designated as essential. These people ensure basics (electricity, water, sewer, trash, road maintenance, first responders to emergencies) continue to function. Think of life without air conditioning as the summer approaches. Yes, our ancestors survived without it, but isn't it so nice to have? Then there are the people who continue to ensure we have food supplies, the producers, the processors, the transportation, and the retailers. They have kept us fed and implemented procedures to ensure our safety such as drive thru operations or curbside pickups.

All the above and *so many more* played a significant role in sustaining our country as we combat this disease. Now as our society is reopening, we must remember, the pandemic is not over, the reopening should not be a return to the casual way we used to do things. The safer alternative is to reopen following the best practices of disease prevention as promoted by the CDC and your local health authorities. By implementing these prevention measures, you and those around you can stay healthy, and can continue to work and protect those around you.

Some mosquito control personnel picked up duties related to the prevention of COVID-19. Thank you for what you are doing, and we look forward to your safe return to mosquito control. However, mosquito control and surveillance in your community is critical and must be at the top of its game this year. Medical assets do not need additional work in the form of patients with vector-borne diseases.

Ensure mosquito control programs are adequately staffed and funded to prevent mosquito-borne diseases so medical assets retain capabilities to serve and treat patients with other diseases or injuries. With rains across the more densely populated regions of Texas, the potential for high populations of vector species and disease transmission is high.

And yes, the mosquito season has started. As of May 9th, 3 mosquito pools (Dallas (2) and Tarrant (1) Counties) tested positive for the presence of West Nile virus. Travel cases of Dengue Fever (7) and Chikungunya (1) also were detected in Texas. As mosquito surveillance and control professionals, we are back in the annual fight to prevent mosquito-borne disease from ravaging our communities. We can implement the best practices for mosquito surveillance and control and do this while following the best practices for COVID-19 prevention. Protect Yourself, Protect your Family, Protect those you Serve. Best wishes to all.

2020 Mosquito-Borne Diseases Hit Texas!



TEXAS
Health and Human
Services

Texas Department of State
Health Services

2020 DSHS Arbovirus Activity Report
Week #19 (ending May 9, 2020)
Report Date: May 12, 2020

Table 1. 2020 Arbovirus Activity Summary, Texas, Week 19

Arbovirus	Positive Mosquito Pools	Avian	Equine	Sentinel Chicken	Human						TOTAL
					Febrile Illness	Neurologic Illness	Severe Dengue	TOTAL (HUMAN)	Deaths	PVD ²	
California Serogroup ¹								0			0
Chikungunya					1			1			1
Dengue					7			7			7
Eastern Equine Encephalitis								0			0
St. Louis Encephalitis								0			0
West Nile	3							0			3
Zika								0			0
TOTAL REPORTS	3	0	0	0	8	0	0	8	0	0	11

¹California Serogroup includes California encephalitis, Jamestown Canyon, Keystone, La Crosse, snowshoe hare, and trivittatus viruses.
²PVD - Presumptive viremic blood donors are people who had no symptoms at the time of donating blood through a blood collection agency, but whose blood tested positive when screened for the presence of West Nile virus or Zika virus. Unless they meet the case reporting criteria, they are not counted as a case for official reporting purposes and are not included in the "Total" column.

Note: Human mortality from arboviral conditions is aggregated and reported monthly once documentation has been received and verified.
For more detailed information about West Nile virus, including past weekly and annual reports, please visit <http://www.dshs.texas.gov/idcu/disease/arboviral/westNile/>
For more detailed information about Zika, please visit <http://www.texaszika.org/>

Table 2. 2020 Aedes-Associated Arbovirus Activity by County, Week 19

County	CHIKV*		DENV*		ZIKV*			COUNTY TOTAL
	M	H	M	H	M	H	PVD†‡	
Bastrop				1				1
Collin				1				1
Ector				1				1
Fort Bend				1				1
Harris				2				2
Hays				1				1
Total Number of Reports	0	1	0	7	0	0	0	8

M - mosquito H- human
CHIKV - Chikungunya Virus
DENV - Dengue Virus
ZIKV - Zika Virus

* All reported cases are imported.

†County level data is not reported for conditions with <5 cases reported in a year.

‡PVDs are not included in the "County Total" column.

Do you want to access these reports? If yes, go to

<https://dshs.texas.gov/idcu/disease/arboviral/westNile/reports/weekly.aspx?terms=arbovirus%20weekly%20summary>

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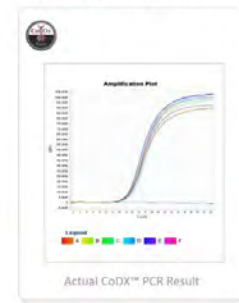
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The Impact of COVID-19 on Local Vector Control Response

May 04, 2020 / Andrea Grenadier

This article was circulating in various mosquito communications, but it contains information which may be helpful to our membership. The link below will take you to the original article:

<https://www.naccho.org/blog/articles/the-impact-of-covid-19-on-local-vector-control-response>

Health departments across the country are limiting or shuttering services due to the COVID-19 outbreak. The National Association of County and City Health Officials (NACCHO), representing the country's nearly 3,000 local health departments, spoke with members of its Vector Control Collaborative and Vector Control Workgroup about the impact of COVID-19 on their ability to conduct activities that combat mosquito- and tick-borne diseases. The COVID-19 response has taken time, attention, and personnel away from all other unrelated health priorities, as already- underfunded and understaffed health departments respond to this pandemic. In doing so, existing services are strained or paused, with health impacts that will ripple through communities.

These impacts come at a challenging time. Local health departments and other vector control programs are working to combat historically high vector-borne disease rates. As temperatures rise well above 50 degrees throughout much of the country, mosquito and tick populations increase, meaning many Americans are at a greater risk for vector-borne illness. Mosquitoes and ticks are more than just a nuisance, they can spread deadly diseases and pose a serious public health threat. Tickborne diseases hit a record high in the United States in 2017 with nearly 60,000 reported cases, including 42,743 cases of Lyme disease. Cases decreased in 2018, but are still significantly higher than they were in the early 2000s.[1]

West Nile virus is the leading cause of domestically acquired mosquito-borne disease in the continental U.S. In 2018, 48 states and the District of Columbia (DC) reported 2,813 cases of domestic arboviral disease, including 2,647 (94%) West Nile virus disease cases.[2] Other diseases, including eastern equine encephalitis, Jamestown Canyon, La Crosse, Powassan, and St. Louis encephalitis viruses, cause sporadic cases of disease and occasional outbreaks. Shockingly, states that have experienced outbreaks in vector-borne disease in the past year have had their local vector programs deemed nonessential during the COVID-19 pandemic, halting surveillance and control activities that can detect or prevent vector-borne disease threats before they affect the community.

At the same time, local health departments are still dealing with budget and staffing cuts from the 2008 recession, when they lost nearly a quarter of their workforce, while leading on the front lines of the COVID-19 response that is having an impact on every community in the country. Vector programs we spoke with noted they have been experiencing varying levels of impact from COVID-19 to their routine operations, ranging from minimal impact to entire vector programs being deemed non-essential and shut down, or large portions of staff being realigned for COVID-19 response.

Additional impacts include:

1. Reduced or suspended services and activities, often because staff are pulled away to focus on COVID-19 response.
2. Shuttered outreach, education, and prevention efforts due to implementing social distancing guidelines and lack of staff.
3. Hindered ability to bring on temporary staff or interns. Many vector organizations rely on seasonal hires to support mosquito season trapping and control during the warmer months.
4. Limited ability to test mosquito samples for disease due to decreased lab capacity from COVID-19

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surge. For some, this means longer wait times for results, only being able to test select mosquitoes, or having to find testing alternatives to their jurisdictional or state labs entirely.

5. Prioritization of PPE for COVID-19 is leading to supply shortages in vector programs, as N95 masks are also used for chemical control applications.
6. Delta Vector Control District (DVCD) – COVID-19 Daily Operation Guidelines: This document outlines modifications that the DVCD has made to its daily operations in order to curb the spread of COVID-19, while continuing to provide the essential service of protecting their communities from mosquitoes and mosquito-borne disease.
- 7.

Despite the workforce and resource challenges, these programs are finding ways to adapt and fulfill their critical public health function while still maintaining social distancing. These include:

1. Ramping up the dissemination of educational materials to their communities through various media outlets (social media, radio, etc.).
2. Using mapping tools to look at mosquito habitat and prioritizing efforts in areas where the most good can be done for the greatest number of residents.
3. Focusing surveillance efforts on the areas that have historically yielded positive pools of specimens.
4. Establishing a statewide collective of vector control professionals to discuss strategies in maintaining program operations and navigating the challenges brought by COVID-19.
5. Equipping vector program personnel to set and collect surveillance traps from home.

NACCHO has compiled a list of resources from its partners and members to assist vector control programs in navigating this challenging time. These resources are highlighted below.

1. Arkansas Department of Health – Transmission of COVID-19 by Ticks and Mosquitoes: This memo provides guidance to the general public regarding the transmission of COVID-19 by Ticks and Mosquitoes.
2. Arkansas Department of Health – Guidance on COVID-19 for Pest Management Professionals: This guidance provides recommendations that technicians, managers, and other pest management industry professionals can take to reduce transmission of COVID-19.
3. Association of State and Territorial Health Officials (ASTHO) – Optimizing PPE supplies with Decontamination and Reuse: This brief provides key considerations, resources, and examples for states and territories considering PPE decontamination and reuse in healthcare facilities.

If you have any questions about these tools or would like to submit a tool of your own to the Vector Control Toolkit, please contact the NACCHO Vector Control Program at vectorcontrol@naccho.org.

More resources on vector surveillance and control can be found by searching the Vector Control Toolkit in the NACCHO Toolbox. The NACCHO Toolbox is a free, online collection of public health tools that have been created and shared by members of the public health community. To view the Vector Control Toolkit, visit the NACCHO Toolbox and select “Vector Control Toolkit” from the dropdown menu.

For more details on NACCHO’s response to COVID-19, see its COVID-19 information page. If you would like to share how the COVID-19 response is affecting your local vector control program, please submit your stories on this short form: <https://www.naccho.org/programs/coronavirus>. This feedback is critical to our work to advocate on your behalf. Thank you.

[1] CDC. Ticks. Tickborne Disease Surveillance Data Summary webpage. Retrieved March 9, 2020, from <https://www.cdc.gov/ticks/data-summary/index.html>

[2] McDonald E, Martin SW, Landry K, et al. West Nile Virus and Other Domestic Nationally Notifiable Arboviral Diseases — United States, 2018. MMWR Morb Mortal Wkly Rep 2019;68:673–678. DOI: <http://dx.doi.org/10.15585/mmwr.mm6831a1> . .

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Benefits of Being a TMCA Member

The Texas Mosquito Control Association is an all-volunteer organization organized as a 501(c)(3) non-profit organization dedicated to creating opportunities for the betterment of mosquito surveillance and control professionals in the State of Texas. No one gets paid for what they do and hence no one makes a profit by serving on the TMCA Board of Directors or as Committee or Subcommittee chairs or members thereof. The TMCA is the only non-governmental organization that exclusively supports Texas mosquito surveillance and control professionals.

I sometimes hear the question, what do I get for my dues? First, participating in a professional association is for persons who are interested in their profession and who aspire to become better. Second, members in a professional organization actually get a lot for their membership dues, but much of what they get are opportunities to be informed, to improve their job performance, to network with others in the mosquito control industry, to help them meet regulatory requirements, to have the TMCA interact on their behalf with state and national agencies to ensure new regulations are fair and equitable, and ideally to provide the opportunity to socially interact with others who do what you do.

What members get is a team of interested, unpaid individuals

- (1) who organize, advertise, and conduct an Annual Meeting,
- (2) who conduct an annual Spring Workshop (for CEUs),
- (3) who provide communications about mosquito work in Texas via the website, social media, and the newsletter,
- (4) who work on the behalf of the membership to monitor regulatory requirements and as necessary represent TMCA members with state agencies to ensure fair regulations associated with best practices are being emplaced,
- (5) who provide opportunities for Professional Development through attendance at the above meetings or by helping to lead and/or manage the organization,
- (6) who provide for professional recognition in the form of awards, scholarships, and mentions in TMCA media posts,
- (7) and who work on the behalf of the membership to represent Texas' concerns and participation in national organization mosquito surveillance and control initiatives.

So, if you are a mosquito surveillance and control professional in Texas and you are interested in your profession and want to become better, then being an active TMCA member will enhance the opportunities to enrich your life and become even better at what you do.

Do you know of more benefits or reasons for being a TMCA member? Let me know and I will add to the above list. Thanks, Bill Sames, mosquitodoctor@yahoo.com



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For more information, contact:

Candace Royals
Senior Technical Specialist, Valent BioSciences
(813) 505-8852 candace.royals@valentbiosciences.com

To get the facts: www.valentbiosciences.com/publichealth

Highlights from Mosquito Research Universities in Texas

Texas A&M University, College Station (Dr. Gabriel Hamer) In March 2020, mosquito researchers at Texas A&M University and collaborators from Mexico published a study on *Aedes aegypti* and *Culex quinquefasciatus* blood-feeding patterns in the Lower Rio Grande Valley, Texas. The intent was to quantify the human exposure to mosquitoes in South Texas compared to Northern Mexico to help understand differences in disease cases on each side of the border.

In the study, researchers reported *Ae. aegypti* and *Culex quinquefasciatus* host feeding patterns and vertebrate host communities in residential environments of South Texas to identify host-utilization relative to availability. Only 31% of the *Ae. aegypti* blood meals were derived from humans, while 50% were from dogs and 19% from other wild and domestic animals. In *Cx. quinquefasciatus*, 67% of blood meals were derived from chicken, 22% came from dogs, 9% from various wild avian species, and 2% from other mammals including one human, one cat, and one pig. Using these data, they developed a model for the reproductive number, R_0 , for Zika virus (ZIKV) in South Texas relative to Northern Mexico using human disease data from Tamaulipas, Mexico. They showed that ZIKV R_0 in South Texas communities could be greater than one if the risk of human exposure to *Ae. aegypti* bites in these communities is at least 60% that of Northern Mexico communities. The high utilization of non-human vertebrates and low risk of human exposure in South Texas diminishes the outbreak potential for human-amplified urban arboviruses transmitted by *Ae. aegypti*. Studies like this help us to better understand how ZIKV occurs within a community and how changes can help reduce risk of virus transmission. This free to download article is available at: (<https://www.mdpi.com/1999-4915/12/4/453/htm#app1-viruses-12-00453>).

Baylor University, Waco (Dr. Jason Pitts) Dr. Pitts and Robert Huff, Ph.D. student, contributed to a recently published paper in the online journal, *Tropical Medicine and Infectious Disease* (link below). The study was led by Dr. Kathy Hanley's lab at New Mexico State University. In brief, a survey of mosquito species and blood meal hosts in the context of land cover and land use change was conducted across the northern portion of the island of Borneo. Dr. Pitts' lab assisted in mosquito identification by using DNA barcoding, and they correlated their results with the initial morphological identifications. The cataloging of mosquitoes in Borneo, a biodiversity hotspot, is sorely lacking and the data generated in the study may be useful in future surveys of vector-host transmission networks.

BTW, Borneo is a large island in the Malaya Archipelago (group of islands). Part of Borneo belongs to the country of Malaysia, part belongs to the country of Indonesia, and the third part is a tiny, independent country called Brunei. The entire country of Brunei is a little larger than Edwards County, TX and a little smaller than Jeff Davis County, TX. This study was conducted in the Malaysian portion of the island, and you can read this free to download article at: <https://www.mdpi.com/2414-6366/5/2/51>.

2020 TMCA Workshop-McAllen Vendor Support

The companies listed on these pages exhibited at the TMCA Spring Workshop in McAllen. Sponsoring companies are acknowledged in parenthesis. Please remember those who support TMCA when you seek mosquito surveillance and control products.

Photos by Salvador Rico.



Dean May for AMVAC Environmental Products
(Exhibitor, Coffee Break Event Sponsor, Contributing Sponsor)



Peter Cianchetti and Jason Williams for VDCI.
(Exhibitor, Contributing Sponsor)



Ed Bredemeyer for Central Life Sciences.
(Exhibitor)



Jason Scott for Target Specialty Products.
(Exhibitor, Coffee Break Event Sponsor)



Keith Haas for Univar Environmental Sciences.
(Exhibitor, Event Sponsor – Early Bird Social)



Colton Cooper for ADAPCO.
(Exhibitor, Event Sponsor – Coffee Break)

2020 TMCA Workshop-McAllen Vendor Support

The companies listed on these pages exhibited at the TMCA Annual Meeting in Waco. Sponsoring companies are acknowledged in parenthesis. Please remember those who support TMCA when you seek mosquito surveillance and control products.

Photos by Salvador Rico.



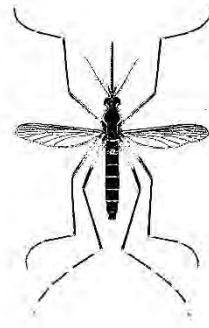
Doug Carroll for Clarke Mosquito Control Products.
(Exhibitor, Event Co-Sponsored – Lunch, Contributing Sponsor)



Robert Stocker for AP&G.
(Exhibitor)



Lenda Christian for Hair Everywhere Salon
(Exhibitor)



**TMCA Business meeting via Video/Tele
Conference will be held Tuesday, December 8th
at 1:00 p.m.**

In November, information on how to connect will be in the Newsletter, on the TMCA Website, and Social Media pages.

TMCA Spring Workshop – McAllen

Jimmy Garcia

If you were able to join us in McAllen, I'm sure you enjoyed the amenities. If you were not able to attend the spring workshop, then our next in person annual event may be next spring, as unfortunately our winter joint LMCA/TMCA meeting has been canceled due to COVID-19 concerns. Nevertheless, you can keep up to date with us on Facebook by searching Texas Mosquito Control Association, or on Twitter @texasmosquito and if you've not had a chance to visit the new website, check it out at texasmosquito.org.

Let's get back to the Valley. Our McAllen workshop is said and done but that warm weather we experienced for the second week of March was a treat! We had some new members join us for the first time and we hope they will have a lasting experience from the meeting. Though our spring meeting is typically filled with CEU presentations, we did have the privilege of having local knowledge assist with the workshop. For instance, Josh Ramirez from the City of Harlingen and Steven Hinojosa from Hidalgo County both spoke about their vector control program and challenges they face. From an operator's standpoint, this information was quite interesting to learn about the types of vectors and different approaches used by other municipalities and counties. To round this off, something new incorporated this year for our workshop was a round table Q&A discussion. This was unique as questions were asked on a digital platform. Basically, by asking a question electronically through a web-based link used through your phone. This increased participation and ultimately more lively discussions. I mean let's face it, who likes raising their hand to ask questions? I enjoyed this platform, and it really worked nicely.

So, as many of you have begun your mosquito abatement season, I encourage you to keep up with TMCA and follow our social media pages and website. I've personally found this meaningful and a great place to learn and ask questions. As always, I'm always experimenting with the latest trend or just another process that I've never tried before. Currently here in the City of Baytown, are gearing up for wide area larviciding for our container breeding problem areas. We can't wait to see and monitor the results. I'll post more on this later and send pics through our social media links.

Registration Open - Upcoming Vector Control Courses in Houston/Harris County

I hope this email finds you well. As you know, the 23rd Annual Texas Gulf Coast Vector Education Workshop was postponed this year due to COVID-19. While the decision to postpone was necessary for the health and safety of both our instructors and attendees, our commitment to provide vector control training and networking opportunities remains a priority. While this year has been anything but typical; working with our partner, Texas A&M AgriLife Extension, the workshop has been rescheduled for the end of 2020. In addition to the workshop, 2 additional trainings are available in Houston/Harris County this year. Details and registration information is listed below. Please share this with others that would benefit from the training provided.

(Article continued next page.)

*Notes: (1) TDA has extended the deadline for current license holders to complete 2020 CEUs through December 31, 2020. (2) This information is current as of the date of this email. (5/7/2020).

- December 10, 2020
Texas Gulf Coast Vector Education Workshop – *Register through HCPH*
At this workshop an informational program and CEUs for TDA Pesticide Applicators and Animal Control Officers will be provided. The workshop is *free*, registration is required. Lunch is provided. For further details and to register [click here](#). Registration closes Friday, December 4, 2020. For questions please contact me, Rebecca Riley, (832) 927-1918, rebecca.riley@phs.hctx.net.
- September 29-October 1, 2020
Preparation for TDA Pesticide Applicator License Training – *Register through AgriLife*
Preparation for the TDA Non-Commercial Political Pesticide Applicator License General Standards & Category 12 (Public Health). This training is 3 days with 2 days instruction and 1-day testing. For further details and to register [click here](#). For questions please contact Dr. Sonja Swiger, SLSWIGER@AG.TAMU.EDU or Heidi Nivens, Heidi.Nivens@ag.tamu.edu.
- November 10-12, 2020
3-Day Western Gulf Center of Excellence (WGCVBD) Master Vector Certification Course – *Register through AgriLife*
This training is 3 days with no registration fee. For further details and to register [click here](#). For questions please contact Dr. Sonja Swiger, SLSWIGER@AG.TAMU.EDU or Heidi Nivens, Heidi.Nivens@ag.tamu.edu.

TMCA Members Serving in National Level Leadership Positions

Featuring: Nina Dacko, Chair, AMCA Chemical Control Subcommittee



Members who have attended TMCA Annual Meetings or Workshops, should already know Nina Dacko, the vector control supervisor at Tarrant County Public Health and current TMCA Vice-President. She has been an active member of the TMCA since March 2014 and has served on the TMCA Board of Directors since October 2014. For the past 3 years, she prepared the Annual Meeting Program, which means she was the person who coordinated with potential speakers and organized the presentations into similar categories. She is also chair of the TMCA Media Committee, which has 3 subcommittees: website, social media, and newsletter; all of which are crucial in keeping TMCA members informed about the TMCA's business and events.

What most people do not know about Nina is her involvement with the American Mosquito Control Association (AMCA). In 2011, Nina became an AMCA member and her first attendance was at the February 2012 Austin, TX AMCA Annual Meeting. From attendance at other meetings and this one in Austin, she learned that professional meetings were essential to one's career, and she learned how to make connections with others, learned from hearing about their experiences, and had opportunities to

share her experiences. She felt the amount of information one can learn from a single meeting was astronomical and she highly recommends anyone involved in mosquito surveillance and control attend at least one national meeting every few years, if not annually.

After several years of participation with the AMCA, it became known that Nina's college course work included multiple chemistry courses. With this background, she was given the opportunity to co-chair the AMCA's Chemical Control Subcommittee in 2018. Circumstances created other opportunities for her co-chair, so Nina became the subcommittee chair in 2019. This subcommittee is responsible for reviewing and advising AMCA on documents related to mosquito control pesticide laws, regulations, and biological opinions, advising in pesticide usage complaint responses and multi-agency guidance documents, and educating federal agencies on current methodologies in pesticide usage. There are 3 people on the subcommittee and 3 liaisons from other committees, and over the past 3 years they reviewed and given opinions on Pyrethroids and Pyrethrins; Ecological Risk Mitigation Proposal For 23 Chemicals (September of 2019) and met with several federal agencies, such as EPA, FDA, USDA, National Marine Fisheries Services, and Fish and Wildlife Services, along with numerous other AMCA committee chairs and board members to discuss needed data for future chemical review and assessment. Nina continues to attend AMCA Annual Meetings and went to her first AMCA Washington Day Event in May 2017. Her travel, as a first-time attendee, was sponsored by Central Life Sciences.

Nina's interest in insects was evident by the age of 2 and by the time she entered first grade, she was known as the Bug Lady. By age 10, she knew she wanted to be an entomologist. Later, she earned a bachelor's degree in Integrated Biology, which focused on entomology, from the University of Illinois. Her first job working with insects was with the Champaign Urbana Encephalitis Prevention Program (CUEPP)/medical entomology laboratory under the guidance of Dr. Robert Novak. Dr. Richard Lampman, at the lab, taught her how to use keys to morphologically identify mosquitoes and she spent a lot of time treating storm drains with Bti. She also cared for 6 species of mosquitoes reared in laboratory colonies.

In 2011, she received a master's degree in environmental toxicology from Texas Tech University under the tutelage of Dr. Steve Presley. Her thesis "The effects of arsenic trioxide on *Sarcophaga bullata* (Diptera: Sarcophagidae)" was not about mosquitoes, but Dr. Presley utilized her trapping and identification skills in his Vector-borne Zoonoses and Bioterrorism laboratory where she worked as a research assistant. She trained other lab personnel on how to properly trap and identify mosquitoes, and Dr. Anna Gibson taught her the wonders of RT-PCR. She also learned how to conduct CDC bottle bioassays.

Her first job out of graduate school was as an entomologist at the Lake County Vector Control District (LCVCD) in California, which she started in the winter of 2011. The 2012 West Nile virus outbreak in the Dallas-Fort Worth Metroplex created a supervisor position and two assistants in Tarrant County. She applied for the supervisor position, got it, and greatly expanded the program in 2013. She ordered new lab equipment, new pesticides, trained external workers how to utilize fixed trap locations, and managed the work of others. The program expanded to 4 assistants and collaborations with others in the Tarrant County Environmental Health and Epidemiology Divisions, the North Texas Regional Lab, and personnel who work for various Tarrant County municipalities.

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TMCA Member on Cover of *Wing Beats Magazine!*



While it was not “the thrill that’ll getcha, when you get your picture, on the cover of the Rolling Stone,” it was pretty close. Former President, and current TMCA newsletter editor, Bill Sames, and his grandson made the cover of the Spring 2020 *Wing Beats Magazine*, which is published by the Florida Mosquito Control Association. The photo is of a tire pile in Hondo, Texas, which was temporarily created as part of the City of Hondo’s efforts to reduce unwanted tires within its city. The tires came from all over Hondo, then were shipped for proper disposal. Other county and city governments have similar tire collection and disposal programs, which is an integral part of vector control through habitat elimination. The cover was in support of Bill’s article in the magazine, “Preparing for the Next Generation of North American Mosquito Identification and Bionomical Publications.”

Wing Beats is a free magazine and is published 4 times per year. Its purpose is to provide grassroots communications to those who conduct mosquito surveillance and control. Some consider it a “bridge” document between regulatory agencies and university research and those who are doing the in-the-field surveillance and control. Articles come from all over the US and discuss surveillance, new control techniques, innovations in educating the public, and any other topic deemed suitable for the mosquito control profession. If you do not receive this publication, consider subscribing to it. At least one person in each organization should subscribe and they could share it. To subscribe, contact Barbara Bayer at barbebayer@gmail.com. For digital back issues (all free downloads) visit <http://wingbeats.floridamosquito.org/Wingbeats/>.

Audit of TMCA Treasurer's Records

The TMCA Auditing Committee consisting of Mike Nichols (Chair) and Jimmy Garcia met with incoming TMCA Treasurer, Salvador Rico, and outgoing TMCA Treasurer, Dr. Rick Duhrkopf, to audit the TMCA Treasurer's Records on March 2, 2020 in Huntsville, TX. The audit, which normally happens at the TMCA workshop, was performed in Huntsville, a site convenient to all concerned; Dr. Duhrkopf was not available to attend the workshop. Dr. Duhrkopf service as the TMCA Treasurer began in October 2002, when he replaced the retiring Dr. James D. Long. Now, Dr. Duhrkopf is retiring from those duties. Salvador Rico agreed to become the TMCA Treasurer and has been working with Dr. Duhrkopf for the past 2 years to ensure a smooth transition. In October 2019, Salvador Rico was elected as Treasurer during the TMCA’s Annual Business meeting with assumption of office in January 2020. The Audit Committee reported that all funds balanced and were accounted for.



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Texas Mosquito Control Association

Membership Application

Purpose: To assist in promoting public health and comfort through the control of disease transmitting and pestiferous mosquitoes, to provide for the scientific advancement of Association members, and to stimulate public interest in mosquito control activities.

Publications: A Newsletter is published quarterly and emailed to active members. The Association web site is located at <http://www.texasmosquito.org>

TMCA Annual Fall Meeting: Held each year during October at an announced site within the state. Papers presented at this meeting are primarily technical reports dealing with new and improved methods of mosquito control, new insecticides and application techniques. Basic research related to mosquito life cycles, bionomics, diseases, and natural histories are also presented. Distributors are present to display and answer questions about their equipment and chemicals. A registration fee is required to attend.

TMCA Spring Workshop: Held each year during February or March at an announced site within the state. This is a basic training workshop on the operational aspects of mosquito control. Topics include general mosquito biology, mosquito borne diseases, sampling and surveillance techniques, methods of mosquito control, public relations, equipment maintenance, chemicals and chemical safety, record keeping, administrative problems, and advanced operational training in calibration, droplet size determination, mosquito identification, and surveillance devices and techniques. Distributors are present to display and demonstrate their products. Registration is free, and several meals are usually provided by the TMCA to help reduce costs to attendees.

CEU's: CEU's for the Texas Department of Health Vector Control Certified Applicator License are offered at the Spring Workshop. Fees are \$20 per hour of CEU requested for non-members, free to all TMCA members. A copy of the TDA regulations can be downloaded from the TMCA web site at <http://www.texasmosquito.org>

Annual Dues: Dues are payable on a calendar year basis. Active Memberships are \$30 per year, and Supporting Memberships are \$60 per year.

Name: _____ Date: _____

Affiliation: _____ Position: _____

Work Mailing Address: _____

City & State: _____ Zip: _____

Phone: _____ Fax: _____ Email: _____

Membership type applied for: Active (\$30): _____ Sustaining (\$60): _____

Make check payable to:

Texas Mosquito Control Association

Return application & remittance to:

Greg Marciniak, Membership Chairman
Jefferson County Mosquito Control District
8905 First Street
Beaumont, Texas 77705

Phone: 409-719-5927 Fax: 409-727-4176 Email: membership@texasmosquito.org