

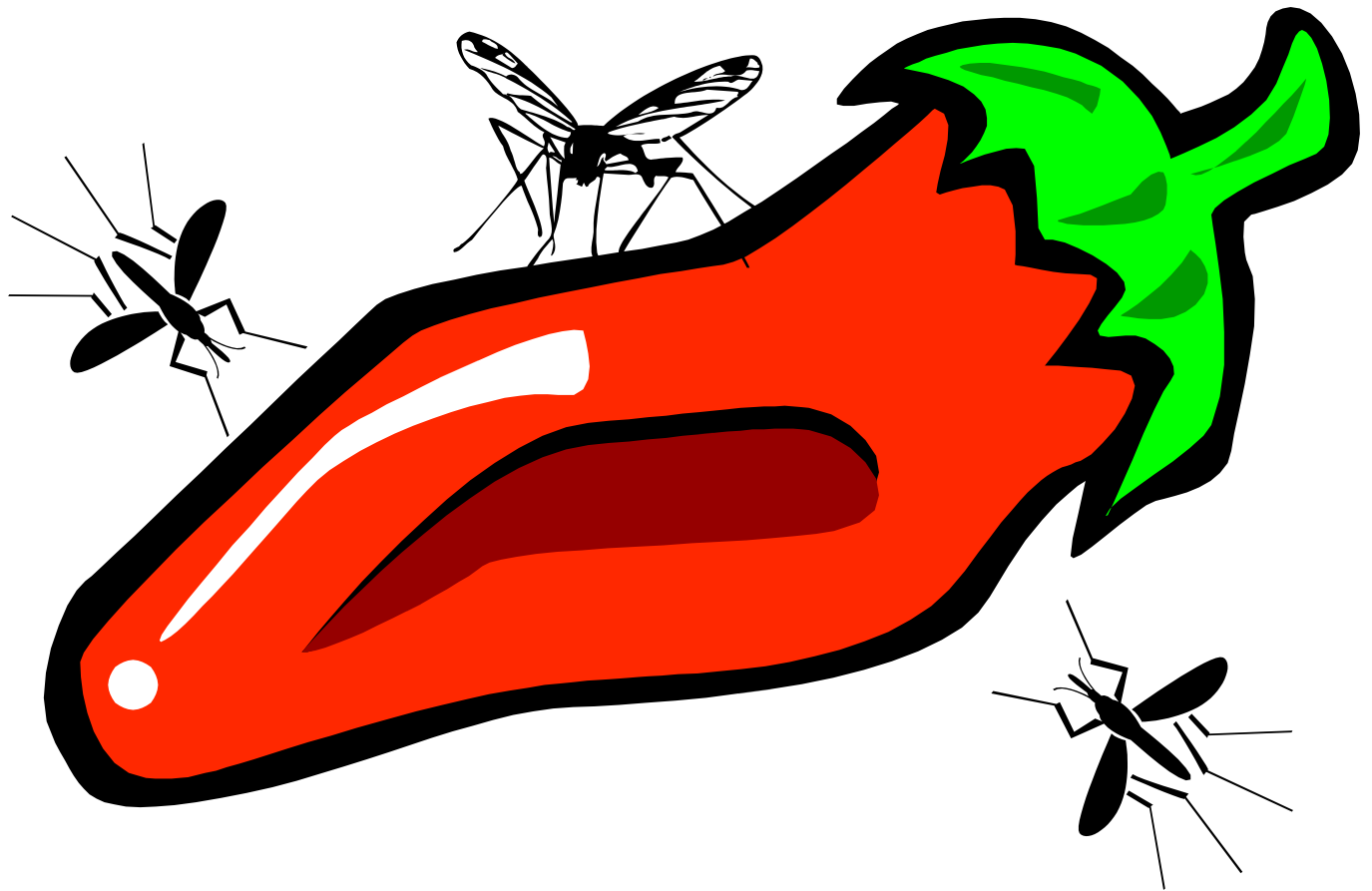
TEXAS MOSQUITO CONTROL ASSOCIATION NEWSLETTER

Volume 42

May

2022

West Nile virus...



...Hotter than a TEXAS Chilipepper!

Editor – William Sames, Ph.D.

Contributors – Nina Dacko, Salvador Rico, Herff Jones, James Garcia, Dr. Mark Johnsen

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About the Cover: This is a retro cover from the August 2003 TMCA Newsletter. With West Nile virus already circulating in 2022 and the weather in May being hot and steamy, this just seemed appropriate. West Nile virus was first found in Texas in 2002, so this cover is also a reminder of how long we have been dealing with West Nile virus and working to reduce its impact on our communities.

Oct 2021-Oct 2022 Texas Mosquito Control Association Board of Directors

President	Nina Dacko	Tarrant County Public Health, Vector Control, Fort Worth, TX
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To contact a Board member, please send an email to info@texasmosquito.org and list the person you are trying to contact, present your question or concern, and provide your name and contact information.

Oct 2021-Oct 2022 Texas Mosquito Control Association Standing Committees

Legislative	Mike Nichols, Chair	R. Duhrkopf
Membership	Mark Johnsen, Chair	M. Nichols, P. Prather, M. McNairn, S. Swiger
Program	Nina Dacko, Chair	Board of Directors
Publicity – Newsletter, Website, Social Media	Nina Dacko, Chair	W. Sames (Chair, Newsletter Subcomm), C. Steele (Chair, Website Subcomm), S. Rico (Chair, Social Media Subcomm)
Scholarship & Awards	Megan Wise de Valdez, Chair	J. Flosi, R. Duhrkopf, W. Sames

Oct 2021-Oct 2022 Texas Mosquito Control Association Special Committees

Auditing	Megan Wise de Valdez, Chair	M. Johnsen, P. Beebe, C. Fredregill, W. Sames
Constitution, By-laws & Resolutions	William Sames, Chair	W. Becker, M. Nichols, S. Sawlis
Financial Support	James Garcia, Chair	J. Flosi, M. Nichols
Local Arrangements	Patrick Prather, Chair	S. Swiger, S. Rico
Nominating	Salvador Rico, Chair	R. Duhrkopf, J. Flosi, S. Sawlis
Young Professionals	Jason Fritz, Chair	A. Medellin, K. Pritts, D. Skinner, C. Steele
Systematics	William Sames, Chair	J. Flosi, R. Duhrkopf, B. Bolling
Workshop CEU's	Sonja Swiger, Chair	P. Prather, J. Flosi, M. Nichols



Nina Dacko

Message from the President Nina Dacko

Hello TMCA members! By now, the mosquito season has started for everyone in Texas. In Tarrant County, we've already had our first in-season positive. Also, it has been hot and dry around much of the state. What will this mean for you? Did you have a lot of West Nile virus activity last year? Did you have any St. Louis encephalitis virus activity? Will we see eastern equine encephalitis virus? Will there be any dengue, chikungunya or Zika anywhere in the state? Who knows? Not everything with mosquitoes and vectors is easy or predictable. And it's because of this that we need to continue looking for evidence of vector borne diseases.

With the obvious season reminders out of the way, I want to highlight Washington Days from the American Mosquito Control Association (AMCA). Aside from myself, Ms. Emily Boothe, and Mr. James Mann

represented Texas mosquito interests. We met with some of our Texas US Representatives and discussed topics identified by the AMCA. These included the Strengthening Mosquito Abatement for Safety and Health (SMASH) Act appropriations, support for the Kay Hagan Ticks: Identify, Control, and Knockout (TICK) Act, additional funding for the EPA (who is tasked with including Endangered Species Act provisions on labeling during the reregistration of pesticides), and the Agricultural IR-4 program, which includes the need for funding the development of more organic active ingredients through research grants, and the mitigation of potential limitations of Unmanned Air Systems (UAS) that could impact some operations.

Speakers were from the Centers for Disease Control and Prevention (CDC), the United States Department of Agriculture (USDA), the National Association of County and City Health Officials (NACCHO), the National Environmental Health Association (NEHA), the Environmental Protection Agency (EPA), the United States Fish and Wildlife Services (USFWS), the National Marine Fisheries Service (NMFS), the Entomological Society of America (ESA), and other collaborators. As you can see, many collaborators were present, and the theme was reflective of the One Health Initiative. We all need to work together and be included in finding solutions to human, environmental, and veterinary issues. The event also included talks on how climate change could impact human health. For vector control, this includes changing weather patterns and the expansion of mosquito and other vector ranges.

To wrap things up, please be sure to promote and share what you do during National Mosquito Control Awareness Week (June 19-25). You might consider distributing a press release or set up some meetings in your municipality school systems. There are more ideas on the AMCA's website:

<https://www.mosquito.org/page/mosquitoweek>.

The TMCA Board of Directors is planning the TMCA Annual Meeting, which will tentatively be in late October or early November. For those who can make it, the Louisiana Mosquito Control Association (LMCA) will be in early December. Details for these meetings are coming soon!.



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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 the newsletter subcommittee. If you have information or photos of benefit to TMCA members, please submit that information to the TMCA Editor. Newsletters are published in January, May, August, and November with issues released after the quarterly Board of Directors meeting. Consider submitting artwork for a cover.

Advertise in the TMCA Newsletter. Advertising rates are \$50 for 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. The 89th AMCA Annual Meeting is scheduled to be in Reno, Nevada, 27 Feb – 3 March. Go to <https://www.mosquito.org/> for more information.

Texas Mosquito Control Association Annual Meeting. Big Change! No Joint LMCA/TMCA meeting in 2022. However, Local Arrangements Committee will find a location for the October 2022 TMCA Annual Meeting. The date, location, and details to be determined and reported in the August newsletter. Information will also be posted on the TMCA website.

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>. To join a committee, send a request to info@texasmosquito.org.

AMCA Meeting – Dallas 2024!

The 2024 American Mosquito Control Association will be held in Dallas, Texas. The last AMCA Annual Meeting in Texas was held in Austin in 2012, so these do not come around too often. The meeting normally takes place in late February or early March, and the TMCA provides volunteers to help at the registration desk and with other activities. Past AMCA meetings in Dallas have been exceptionally good and I anticipate that this one will continue that trend. More to follow!

TMCA Annual Meeting – October 2022

The TMCA Annual Meeting is being planned by the Local Arrangements Committee. At member request and to facilitate end of mosquito season activities, the Committee is considering a late October meeting date. The location, date, call for papers, scholarships, awards, and registration information is forthcoming and will be in the August newsletter. Also, it will be posted to the TMCA website.



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Wanted *Toxorhynchites* Species

I am in the process of determining the distribution of *Toxorhynchites moctezuma* and *Toxorhynchites rutilus septentrionalis* in Texas. Yes, we have 2 species in Texas! However, I need your help. I need specimens to establish county records and to pin and donate them to the Texas A&M University Insect Collection. Larvae and pupae are the easiest to collect and handle. They are found in tree holes, tires, and other containers (such as plastic tubs) that are under trees and that get filled with rainwater. If you would like to help, please contact me at mosquitodoctor@yahoo.com and I will send instructions on how to ship specimens to me. I hope to hear from you soon! Bill Sames

TMCA By-Laws Change – Members to Vote at Annual Meeting

On April 26, 2022, the TMCA Board of Directors tentatively approved changing the name of the Systematics Committee to the Mosquito Systematics, Identification, and Biology Committee. Since the Systematics Committee is listed by name in the TMCA By-Laws, the name change will require a change to the By-Laws and approval of by the TMCA Membership. The Membership will vote on this issue during the Annual TMCA Business Meeting, which will be held as part of the TMCA Annual Meeting in the fall of 2022.

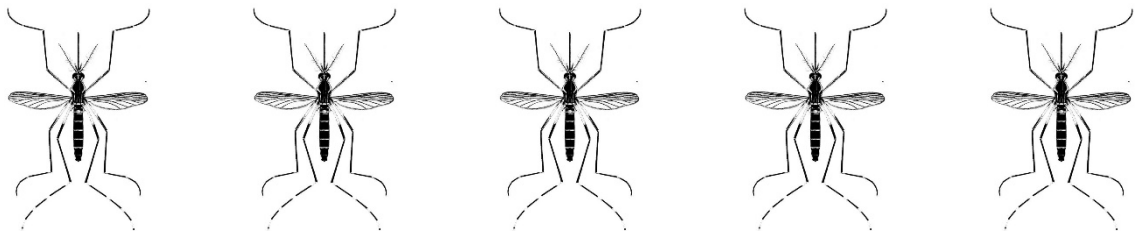
This is the first notice of this change. Comments, changes, additions, questions, etc. should be addressed to the Systematics Committee Chair, William Sames at mosquitodoctor@yahoo.com.

(1) The following paragraph is from the current TMCA By-Laws.

Article II, Section B, Paragraph 7. The Systematics Committee shall consist of three active members who have an intermediate to advanced knowledge of mosquito systematics. This committee shall update the TMCA mosquito species list and provide guidance on dealing with evolving systematic issues.

(2) The committee proposes the following changes (highlighted).

Article II, Section B, Paragraph 7. The **Mosquito Systematics, Identification, and Biology** Committee shall consist of **at least** three active members who have an intermediate to advanced knowledge of mosquito systematics, **identification, and biology**. This committee shall update the TMCA mosquito species list and provide guidance on systematic **and identification** issues, **and answer questions regarding mosquito biology**.



Opinion: Put VectorSurv on the Map

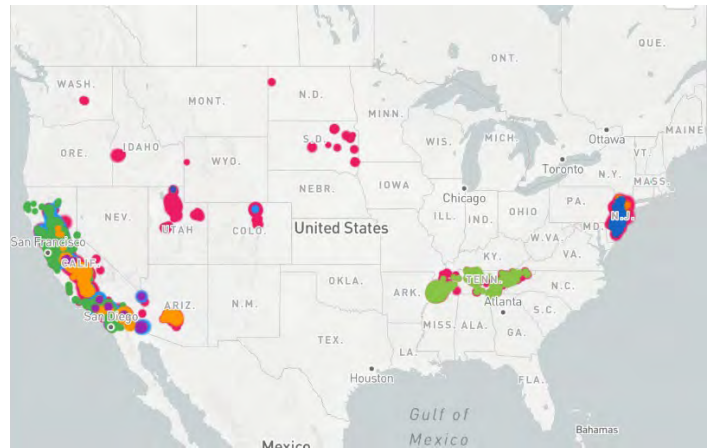
Originally published in the [October 2021 edition of Public Health Landscape](#)

Let's take a moment and discuss some key precepts that relate strongly to Public Health and more narrowly, to vector-borne disease management: a proactive vs. reactive approach; cause and effect; the need to measure in order to manage. One might say these easy-to-understand ideas form the backbone of a successful Public Health program.

We'd be remiss if we did not inject another layer of realism to our discussion, however, and include other, unavoidable considerations: money, politics, and the complexity of meeting the needs of a wide range of stakeholder groups at the global, federal, state, and local level. For those who work in publicly administered public health programs, the latter group doesn't often sync well with the former.

What's Wrong with this Picture?

The value of such a tool seems self-evident. Continually updated by all participating districts, the system allows managers to assess mosquito activity at the macro level and stay ahead of the indicators that warn of a potential outbreak of mosquito-borne illness, including West Nile Virus (WNV), dengue, Zika, chikungunya, and others. In addition to surveillance data, districts log their intervention activities including the location, rates, and timing of both larvicide and adulticide applications. The expansion of the application beyond California provided districts with the added benefit of being able to monitor activity in bordering states and counties. This interstate intelligence proved valuable in 2019, for example, when a district in Southern California was able to react quickly based on a high volume of positive WNV samples emerging in Arizona, while the rest of California remained relatively calm.



The VectorSurv Gateway provides a valuable, data-driven tool that helps vector management agencies monitor and respond to potential vector-borne disease outbreaks in real-time. The fact that only thirteen states participate lays bare a lack of vector control funding.

VectorSurv also affords interesting possibilities for the future. With an adequately populated data set, researchers can investigate the impact of vector-borne disease interventions in a real-world setting. In theory, combining trap counts, positive pool data, brood locations, and subsequent response activities, biostatisticians should be able to evaluate the effectiveness of mosquito control interventions – and their resultant impact on the spread of vector-borne disease – as never before. This work is still in its infancy but has incredible potential for the purposes of future planning, operations, and ultimately human health.

Putting this tool in place nationwide seems like a no-brainer, right? Not so fast. That's where money and politics and competing demands come in. The American Mosquito Control Association (AMCA) fully supports expansion of VectorSurv into a nationwide program. No one seems to deny the value of scaling the application, the question simply becomes who's going to pay for it.

Despite its obvious benefits and financial support from local California districts, the state, and the Mosquito and Vector Control Association of California, operational funding for VectorSurv has been an ongoing challenge. In the vector control industry, funding levels and sources can be notoriously temporal and unpredictable. And herein lies the crux of the ongoing battle vector control officials have to wage: in matters of Public Health, governments and societies tend to be painfully reactive.

The 1999 introduction of WNV into the US is one example. The outbreak brought awareness of the importance of vector control to an all-time high, resulting in an influx of new federal monies for vector control. As the specter of WNV waned, however, that level of funding continued to dwindle. In 2016, the Zika outbreak resulted in hundreds of millions in response funding administered through the Centers of Disease Control and Prevention. CDC put those monies to good use including forward-looking improvements such as increased epidemiological laboratory capacity and the establishment of five new Vector-Borne Disease Regional Centers of Excellence across the country. But again, the funding was wholly reactive and most of it, temporary. A significant increase in long-term, proactive, federal support for local vector control programs failed to materialize.

If a shift toward a more proactive approach to vector-borne disease is indeed a federal objective, permanent federal funding for VectorSurv would seem to be low-hanging fruit. The heavy lifting is already done. What remains is to promote its adoption at the national level through CDC, the National Association of County and City Health Officials (NACCHO), AMCA, and state associations. In addition to some federal monies to support ongoing administration of the program, the commitment would also require resources to conduct the prerequisite training and to provide some level of ongoing support for State Departments of Health (including US Territories and Freely Associated States) where vector control funding is already lacking.

It seems like a wise investment.
~ Public Health Landscape

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Event Summary: TMCA Spring Workshop in Rockwall, TX

On April 26-27, 2002, the TMCA held its annual Spring Workshop at the Hilton Dallas/Rockwall Lakefront Hotel, 2055 Summer Lee Drive in Rockwall, Texas. The workshop was planned and managed by Dr. Sonja Swiger, Associate Professor TAMU AgriLife, and Patrick Prather of Municipal Mosquito. On April 26th, the meeting began with registration, an Early Bird Social sponsored by Clarke Mosquito Control Products, and a TMCA Board meeting in the late evening. A total of 45 were registered for the workshop of which 37 were member registrations and were 8 vendor registrations.

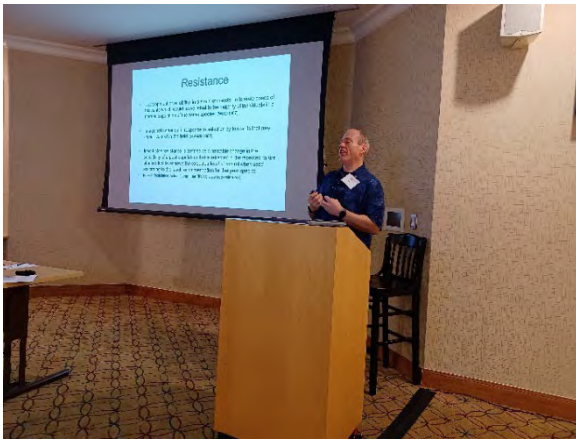


(Left) The Hilton Dallas/Rockwall Lakefront Hotel. (Right) TMCA President, Nina Dacko, welcomed attendees. All photos in this article courtesy of Salvador Rico.

On April 27th, the meeting began at 8:30 with a welcome by TMCA President Nina Dacko, who then turned over the meeting to the first session moderator, Patrick Prather. The first speaker was Dr. William Sames, who presented virtually. His presentation focused on the status of mosquito distributions in the state as he discussed their biology and importance as vectors. Dr. George Peck discussed the importance of mosquito surveillance, and Dr. Mark Johnsen discussed insecticide resistance and how it affects mosquito control. After the Vesperis sponsored lunch, President Nina Dacko presented on the creation and use of thresholds as a means of determining when to implement control measures. She was followed by Perry Cervantes, Texas Department of Agriculture, who spoke on laws and regulations related to the public health and pest control industry.



(Left) Patrick Prather introduced the first speaker, Dr. William Sames, who presented virtually. (Right) Dr. George Peck presented on the importance of mosquito surveillance.



Dr. Mark Johnsen discussed insecticide resistance and Nina Dacko presented on developing and using mosquito control indices.



Perry Cervantes wrapped up the workshop with a review of Public Health Laws and Regulations.

The 7 companies that sponsored the workshop were: ADAPCO, Central Life Sciences, Clarke, Co-Diagnostics, EAB Optimal Sales, Target Specialty Products, and Vesperis, Clarke Mosquito Control Products sponsored the Early Bird Mixer, and Vesperis sponsored the lunch on the 27th. The 2 coffee breaks were sponsored by Central Life Sciences and Target Specialty Products. ADAPCO and EAB Optimal Sales were contributing sponsors. We sincerely thank our vendors for their sponsorship of the workshop. Through their generosity, the TMCA can continue to provide quality workshop and annual meetings.

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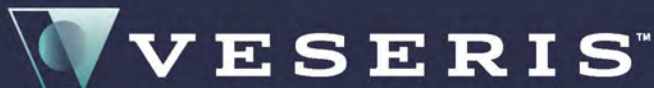
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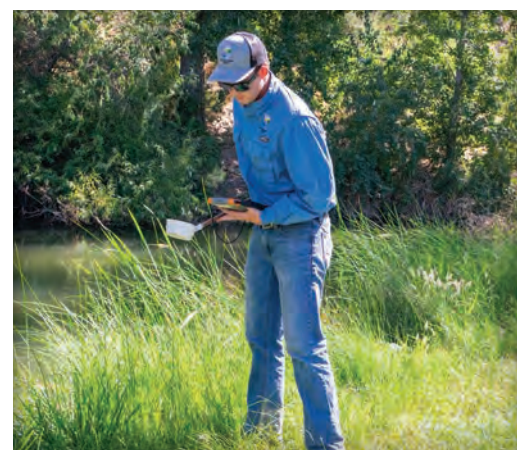


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Mosquito Species in Texas (88 species as of June 1, 2022)

Aedes aegypti
Ae. albopictus
Ae. atlanticus
Ae. bimaculatus
Ae. brelandi
Ae. campestris
Ae. canadensis canadensis
Ae. dorsalis
Ae. dupreei
Ae. epactius
Ae. fulvus pallens
Ae. grossbecki
Ae. hendersoni
Ae. infirmatus
Ae. japonicus japonicus
Ae. mitchellae
Ae. muelleri
Ae. nigromaculis
Ae. scapularis
Ae. sollicitans
Ae. sticticus
Ae. taeniorhynchus
Ae. thelcter
Ae. thibaulti
Ae. tormentor
Ae. triseriatus
Ae. trivittatus
Ae. vexans
Ae. zoosophus

An. quadrimaculatus
An. smaragdinus
An. walkeri

Coquillettidia perturbans

Culex abominator
Cx. apicalis
Cx. arizonensis
Cx. chidesteri
Cx. coronator
Cx. declarator
Cx. erraticus
Cx. erythrothorax
Cx. interrogator
Cx. nigripalpus
Cx. peccator
Cx. pilosus
Cx. quinquefasciatus
Cx. restuans
Cx. salinarius
Cx. stigmatosoma
Cx. tarsalis
Cx. territans
Cx. thriambus

Culiseta incidens
Cs. inornata
Cs. melanura

Anopheles albimanus
An. atropos
An. barberi
An. bradleyi
An. crucians
An. franciscanus
An. freeborni
An. judithae
An. psuedopunctipennis
An. punctipennis

Deinocerites mathesoni
De. pseudes

Haemagogus equinus

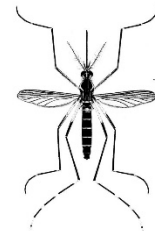
Mansonia titillans

Orthopodomyia alba
Or. kummi
Or. signifera

Psorophora ciliata
Ps. columbiae
Ps. cyanescens
Ps. discolor
Ps. ferox
Ps. horrida
Ps. howardii
Ps. longipalpus
Ps. mathesoni
Ps. mexicana
Ps. signipennis

Toxorhynchites moctezuma
Tx. rutilus septentrionalis

Uranotaenia lowii
Ur. sapphirina
Ur. anhydor syntheta



This updated list was created by the
TMCA Systematics Committee:

Dr. William Sames, Chair
(Indep. Researcher, US Army (retired))

Dr. Bethany Bolling
(Texas Dept. of State Health Services)

Dr. Rick Duhrkopf
(Baylor University, retired)

Dr. Jeff Flosi
(University of Houston, retired)

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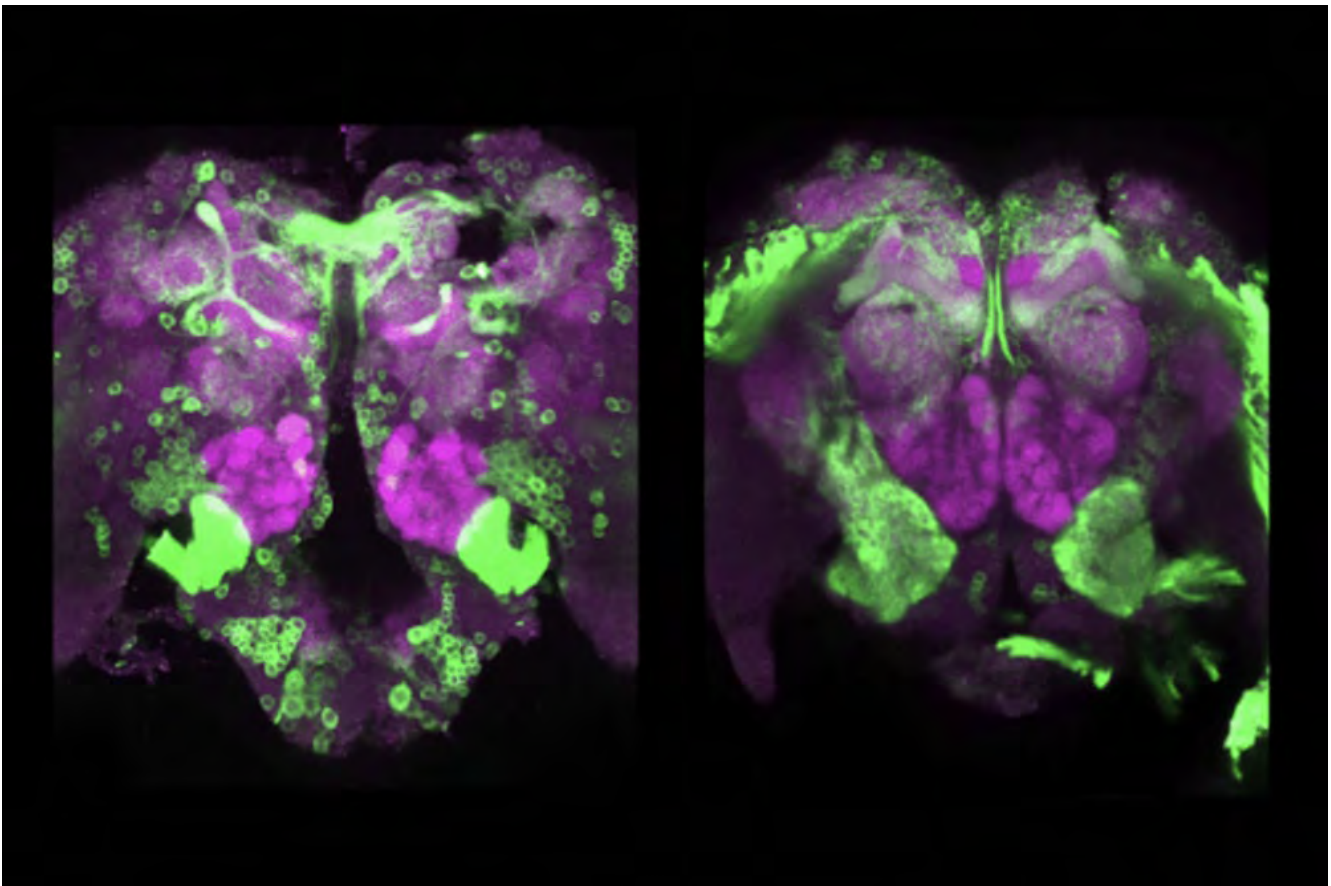
Why Male Mosquitoes Leave Humans Alone

Male mosquitoes won't bite you. For one thing, they cannot—males are hopelessly bad at finding humans and lack a specialized stylet to pierce your skin. But even if they could bite you, they would not want to. They refuse blood meals served to them in the lab through netting, even as their female counterparts engorge on what must appear to be a free lunch.

Now, [a new study](#) from the laboratory of Rockefeller's [Leslie Vosshall](#) helps explain why. It appears that both mosquito sexes share the same neurons and brain structures needed to find humans, but that this hardware is hidden in the male mosquito brain, locked behind a simple genetic switch. Mutate the right gene, the researchers discovered, and male mosquitoes begin buzzing toward human scents in search of a prize that they do not even want.

Beyond clarifying why the male insects don't naturally swarm toward humans, the findings might also contribute to our understanding of how female mosquitoes spread diseases that claim millions of lives.

"This opens up a path into the mosquito brain," says lead author on the study Nipun Basrur, a PhD student in [Vosshall's lab](#). "We really had no idea what circuits in the brain might dictate how female mosquitoes sense humans and make decisions to bite them. Now that we know which gene is controlling them, we can look inside the brain and investigate further."



A side-by-side comparison of the fruitless gene in the female (left) and male (right) mosquito brain.

Why Male Mosquitoes Leave Humans Alone (Continued)

Basrur and colleagues began their work by examining a gene called fruitless, which is known to control courtship behavior in fruit flies. When they knocked out the analogous gene in male mosquitoes, these insects, like fruit flies, failed to mate effectively with females. But the scientists chose to investigate further, suspecting that the mutation might also impact male mosquitoes' desire for blood

When offered warm blood through a net, however, mutant males abstained just like non-mutant males, even as female mosquitoes partook. When exposed to body heat, females liked what they felt. Mutant males, true to their sex, remained unimpressed by the promise of a blood meal—suggesting the corrupted gene doesn't play a role in feeding behavior, per se.

But when the scientists offered these mutant males a human arm, they suddenly swarmed. “This was a truly unexpected—and spectacular—finding,” says Vosshall, who is the Robin Chemers Neustein Professor as well as an HHMI investigator. “We had never seen males interested in the scent of a human before.”

Later tests confirmed that, while mutant male mosquitoes still lacked the desire to drink blood and the ability to sense body heat, turning off the fruitless gene had allowed their brains to process the unique smell of a live human—activating a repressed urge to seek out humans just like a female. “This suggests that male mosquitoes actually possess the neural circuits required to hunt humans,” Basrur says. “Removing fruitless appears to reveal this latent behavior in males.”

An exciting, if theoretical, application would be one day using this information to masculinize female mosquitoes, blocking their ability to spread disease. Initial attempts to do so in the lab, however, rendered the female mosquitoes unviable due to blood-feeding and egg-laying defects. Of more immediate interest is the discovery that the neural circuits that females use to detect humans lie dormant in the male mosquito brain, guarded by a single gene.

Future studies from the Vosshall lab will investigate these latent neurons, continuing to explore how sex differences are encoded in the brain and determined by genes. “For a long time, the assumption was that sex-specific behaviors came from sets of neurons entirely specific to that sex,” Basrur says. “But recent work, including our study, has shown that both sexes often have the same neurons and that genetics controls how they are used.”

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JOB ANNOUNCEMENT

Senior Environmental Services Education Specialist - Mosquitoes

Level Experienced

Position Type Full Time

Salary Range \$23.26 - \$26.45 /hour.

Job Shift Day

Job Location USA-TX-The Woodlands

Education Level 4 Year Degree

Travel % None

Job Categories Undisclosed

SUMMARY

This position is primarily responsible for directing the mosquito surveillance, testing, and education program for the purpose of reducing mosquito-borne disease in The Woodlands. Additional duties include assisting with the development, marketing and implementation of environmental education programs and events for the Woodlands residents, schools, and community groups. The position is a local resource for inquiries on solid waste compliance, resource conservation, public health concerns and preserving the natural environment.

ESSENTIAL DUTIES AND RESPONSIBILITIES *include the following.*

- Recruit, train and supervise seasonal staff and interns to conduct mosquito surveillance and abatement activities – trapping, premises surveys, source reduction, ID and reporting – in-house laboratory testing for mosquito-borne disease.
- Develop and deliver mosquito education presentations, programs, and materials for a variety of audiences.
- Provide expertise for other Township departments, community organizations, residents, local governmental entities and businesses to develop and enhance public support for our environmental programs on solid waste, recycling, household hazardous waste, less toxic alternatives, mosquito control, water conservation, wildlife, native plants and other environmental and public health concerns.
- Research and develop public education campaigns for targeted audiences.
- Design, administer and promote educational programs and activities to ensure and encourage stewardship and compliance with the community values including Adopt-a-Path; Buy Recycled Boutique; community and demonstration gardens; compost classes; Walk in the Woods nature lecture series; Health E-House; mosquito surveillance and abatement and workplace and event recycling; Identifying and developing new programs as needed
- Conceptualize, design and target distribution of support materials for public education and environmental outreach including layout of brochures, flyers, ads and promotional materials and creation of educational displays
- Write press releases, bulletins, public service announcements, magazine articles and grant and award applications
- Plan & Coordinate environmental events including, but not limited to, Earth Day, Walk to School Week and Woodlands Landscaping Solutions, and targeted recycling events
- Solicit bids and negotiate agreements with vendors
- Recruit, train, manage and cultivate volunteers including individuals, youth groups and community organizations to broaden educational outreach and community involvement projects
- Network with governmental, conservation and environmental organizations to nurture partnerships at local, regional and national level
- Respond, investigate and resolve chronic and acute residential service complaints and issues with solid waste provider
- Explore grant and outside funding sources to enhance programming resources.
- Assist Environmental Services Manager in budget development, monthly and quarterly reports and grants.

QUALIFICATIONS

- Bachelor's degree in Environmental Studies, Biology, Entomology or related field (B.S.) with over one year up to and including three years related experience and/or training; or equivalent combination of education and experience.
- Ability to develop creative, innovative educational programs.
- Knowledge of educational and informative presentation techniques for a wide variety of audiences.
- Knowledge and understanding of a broad range of environmental concerns and issues.
- Knowledge of conservation practices, native plants, local wildlife and ecology

CERTIFICATES, LICENSES, REGISTRATIONS

Texas Master Gardener, Texas Master Naturalist and/or Urban Harvest certification preferred; Project Wild, Project Wet, Project Learning Tree recommended



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AMCA - SOUTH CENTRAL REGIONAL UPDATE

Herff Jones, AMCA South Central Director

Climatic challenges and COVID-19 variants were prominent features of 2021. In early February 2021 historic ice storms spread across the southern reaches of the region, crippling electrical infrastructure in Louisiana and Texas. Similar impacts in Mississippi, Arkansas, and Oklahoma resulted in residential damages from downed trees. Early spring was destructive with straight-line storms through Mississippi and Oklahoma which caused added heartache from major home damages.

Late August brought Hurricane Ida to bear just off the mouth of the Mississippi River making landfall as a category 4 storm with 150 mph sustained winds. Ida subdued 10 days later leaving a swath of damage throughout the region estimated to be nearly \$65 billion dollars. Still in the mist of hurricane season, southeast Texas and southwest Louisiana Gulf coasts were host to category 1 hurricane Nicholas. Hurricane Nicholas was a tropical rain maker for the area with widespread flooding storms.

These events are not unique to just the South Central region, but they all involve a “recovery phase.” Coupled with the now 2-year challenge of a pervasive contagion (COVID-19) hampering every aspect of the tasks at hand recovery or providing essential public services seemed an unattainable goal.

Not thwarted, the resilience and ingenuity of mosquito control professionals navigated the many obstacles to ensure the public was served and essential services were provided. In fact, mosquito and vector control professionals as “essential workers” was the theme of the 2021 Louisiana Mosquito Control Association’s (LMCA) annual meeting. This “branding” resonated not only with the membership, but meeting attendees as well. Given the many challenges of the region, being identified as an essential component to public health offered a sense of pride and empowerment.

Mosquito and vector control operations whether contract services, public government districts or municipal programs provided protection and relief to linemen restoring services, civil engineers repairing infrastructure, and residents returning to their homes. This essential public service played a role in preventing potential exigent hospital visits related to mosquito borne pathogens.

The region experienced relatively average incidence of human arbovirus disease for 2021. Ninety-seven (97) human cases were reported across the region. Unfortunately, there were twelve (12) fatalities related to arbovirus transmissions among Arkansas, Louisiana, and Texas. Imported human cases of Dengue and CHIKV were reported in Louisiana and Texas.

State mosquito control associations in Mississippi, Louisiana, and Texas look forward to workshops, training academies and annual meetings in 2022. The intent is to hold more in-person activities in accordance with local public meetings criteria. Please seek out these associations’ websites for further details. Public, contract service, and municipal mosquito and vector control operations will spend the winter months to emerge prepared to face our common foe, “Skeeters.”

2022 Mosquito-Borne Disease Update



TEXAS
Health and Human
Services

Texas Department of State
Health Services

2022 DSHS Arbovirus Activity Report
Week #19 (ending May 14, 2022)
Report Date: May 17, 2022

Table 1. 2022 Arbovirus Activity Summary, Texas, Week 19

Arbovirus	Mosquito Pools	Avian	Veterinary	Sentinel Chicken	Human					
					Febrile Illness	Neurologic Illness	Severe Dengue	TOTAL (HUMAN)	Deaths	PVD ²
California Serogroup ¹								0		
Chikungunya								0		
Dengue					4			4		
Eastern Equine Encephalitis								0		
St. Louis Encephalitis								0		
West Nile	2					1		1		
Zika								0		
TOTAL REPORTS	2	0	0	0	4	1	0	5	0	0

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 (HUMAN)" 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. 2022 Aedes-Associated Arbovirus Activity by County†, Week 19

County	CHIKV		DENV*		ZIKV		
	M	H	M	H	M	H	PVD
Dallas				1			
Tarrant				1			
Travis				1			
Williamson				1			
Total Number of Reports	0	0	0	4	0	0	0

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.

West Nile virus and Dengue Fever virus Detected in Texas.

For 2022, two West Nile virus positive mosquito traps and one WNND were detected in Tarrant and Dallas Counties, respectively. Four travel cases of Dengue Fever were reported. The season has begun! Protect your communities through excellence in your surveillance and control duties. For more, go to: <https://dshs.texas.gov/idcu/disease/arboviral/westNile/reports/weekly.aspx?terms=arbovirus%20weekly%20summary>

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All Fees are Covered
Includes Breakfast & Lunch both days

Classes from 8-5 - Attendance is mandatory for both days
Manuals and all preparation for testing will be provided

*Attendees must work for a political subdivision of the
state of Texas or federal agency operating in Texas*

Dallas - June 28 - 30, 2022

Victoria - July 12 - 14, 2022

Brownsville - August 23 - 25, 2022

Beaumont - September 27 - 29, 2022

Corpus Christi - October 18 - 20, 2022

Abilene - November 15 - 17, 2022

Rosenberg - January 24 - 26, 2023

Marshall - February 7 - 9, 2023

Weslaco - March 7 - 9, 2023

Day 1: General pesticide
information, laws and regs
and equipment usage

Day 2 : Mosquitoes, flies,
and rodents

Day 3: Testing

**Agendas may vary*

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▾ Description

This online course will provide an overview and in-depth knowledge of mosquitoes of Texas, the diseases they carry and how to properly manage them. Approved for 7 AG and & SPCS CEUs through TDA.

▾ Course Details

Instructor	Sonja Swiger
Credit Type	CEU
Credits	7 AG and & SPCS CEUs from TDA.
Language	English

DETAILS PRODUCT REVIEWS



Course Information

This online course will provide an overview and in-depth knowledge of mosquitoes of Texas, the diseases they carry and how to properly manage them. Approved for 7 AG and & SPCS CEUs through TDA.

If you need CEUs for your Public Health pesticide license, this is an option. Texas AgriLife completed their scheduled in-person training for this fiscal year.

Really Hot Off The Press - A New Mosquito Species in Texas!

Journal of the American Mosquito Control Association, 38(2):92–95, 2022
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SCIENTIFIC NOTE

Aedes japonicus japonicus IN NEBRASKA AND TEXAS

WILLIAM J. SAMES,¹ JEFF HAMIK,² JAMES G. MANN,³ JOSHUA D. BAST⁴ AND R. JASON PITTS³

ABSTRACT. *Aedes japonicus japonicus* continues to spread westward and in this study, its presence is documented in 8 counties in Nebraska and in Bowie County, TX. In 1998, *Ae. japonicus* was collected in Connecticut, New Jersey, and New York for the 1st records of this species in North America. Except for Louisiana, it has been reported from all states that border or are east of the Mississippi River. In Canada, it has been reported in Ontario and all eastern provinces. In the Pacific Northwest, it has been reported in Washington, Oregon, and British Columbia, and in the midwestern states that do not border the Mississippi River, Kansas, Oklahoma, and South Dakota are the only states to have reported its presence in peer-reviewed journals.

KEY WORDS Culicidae, habitat, mosquito, new records, surveillance

Download the complete article at: <https://meridian.allenpress.com/jamca/article/38/2/92/481945/Aedes-japonicus-japonicus-in-Nebraska-and-Texas>

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 in 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 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: Dr. Mark Johnsen,
Chair, TMCA Membership Committee
10213 Buckwood Ave
El Paso, Texas 79925

Phone: 979-595-7711 Email: TMCAmembership@gmail.com