Mosquito BEACONS Year 3 (2023 – 2024)

Meeting Y3-Q1 – The Mosquito BEACONS quarterly meeting minutes

Date time: May 26th, 10-11am.
Location: Zoom
Meeting ID: 999 0558 1608

Members Present (24):

Yoosook Lee	University of Florida	Benedict Pagac	Entomological Sciences Division Public Health Command – Atlantic
Raiza Alvarado	Puerto Rico Vector Control Unit	Daniel Peach	University of Georgia
Grayson Brown	Puerto Rico Vector Control Unit	Stephanie Richards	East Carolina University
Marah Clark	Florida Department of Agriculture and Consumer Services	Claudia Riegel	City of New Orleans Mosquito, Termite, and rodent Control Board
Nina Dacko	Harris County Public Health, TX	Cristhian Sanchez	Puerto Rico Vector Control Unit
Sandra Fisher-Grainger	Hernando County Mosquito Control; President of Florida Mosquito Control Association	Anita Schiller	Harris County Precinct 4, Biological Control Initiative, Mosquito bio-control development
Ryan Harrison	Forsyth County Department of Public Health	Alexandra Spring	Laboratory Services Division Public Health Command – Atlantic
Rebecca Heinig	Collier Mosquito Control District	Sonja Swiger	Texas A&M AgriLife Extension
Rosmarie Kelly	Georgia Department of Public Health	Primrose Tanachaiwiwat	University of Florida
Leighanne Lawton	Texas Department of State Health Services	Miranda Tressler	Volusia County Mosquito Control
Joseph LaForest	Southern Integrated Pest Management Center	Sarah Zohdy	CDC

Note takers: Xiaodi Wang, Valerie Nguyen

Meeting Minutes:

1. Updates from members:
   - Nina Dacko/Sonja Swiger from TX – *Ae. taeniorhynchus* is current local issue impacting Houston residents. Tarrant and Williamson counties reported some West Nile virus detected in mosquito pools this year, which may need further monitoring for its progression. Some WNV activities in *Culex restuans*. Early detection of WNV is not abnormal in TX in the past. A local transmission of Dengue case was reported about a month ago (recently confirmed by CDC). The dengue case was from Dallas resident acquired in Val Verde County in a place people do not expect to see.
   - Sandra Fisher-Grainger/Marah Clark from FL: First 2023 equine WNV records reported in Hernando County. Typical WNV peak season is August or later each year. Florida Department of

Health (FDOH) reported quite a few EEE in chicken and horses, and two acquired cases reported in Miami-Dade. Miami-Dade cases are continuation of instances they experienced last year. FDOH is about to go public on the locally-acquired malaria case in Sarasota, FL. The individual does not have travel history but lives near airport. *Plasmodium ovale* is a suspected pathogen.

- Grayson Brown from PR: First 2023 Chikungunya cases reported last week. Chikungunya situation is terrible in Paraguy and Brazil. The cases have been picking up in the Dominican Republic for some time. PR experienced a major Chikungunya outbreak about 10 years ago. There are still a lot of herd immunity left over among community with 40% of adult population being seropositive. However, many people ended up being crippled during the last outbreak thus people will be alert when hearing Chikungunya cases in PR.
- Claudia Riegel from LA: quite year so far at Louisiana. In 2014, LA experienced similar outbreak as PR. Her district purchased a helicopter for aerial larvicide treatment this year.

2. New members introduce projects
   - Dan Peach: University of Georgia, Savannah River Ecology Laboratory, daniel.peach@uga.edu
     - Title: The secret life of mosquitoes
     - Overview
       - Main research area: Pollination and mosquito-plant interactions
       - Mosquitoes could be very effective pollinators under at least some circumstances. Hoping to exploit it for IPM technologies on mosquitoes and refine our understanding of what mosquitoes do in the environment.
       - The big question in the long term: People use sucrose in the lab but neglect it in understanding the vector-borne transmission cycle. Sucrose not only serves as pure energy but also as the great proxy for floral nectar, because there are secondary metabolites, microbes, weird sugars…all sorts of stuffs going on.
     - Past/Future Work
       - Plan to follow up on the sensory ecology study about the spectral sensitivity of the *C. pipiens* compound eye (Peach *et al.* 2019, PLoS ONE 14:e0217484).
       - Peach, Daniel AH, Sean McCann, and Peter Belton. "A Guide to the Mosquitoes (Diptera: Culicidae) of the Yukon." *Canadian Journal of Arthropod Identification* 43 (2021).
       - Species distribution model of *Aedes japonicus* (Peach *et al.* 2019, *J. Vector Ecol.* 44:19:129)
     - Q&A:
       - Please contact Dan separately if you like to have access to his slides.
       - Some species he discovered in British Columbia region may have been there but has not been reported or their range has expanded due to climate change.
   - Ben Pagac/Alexandra Spring, Public Health Command - Atlantic:
     - Title: Public Health Command – Atlantic, Fort George G Meade, MD
     - Overview
       - Public Health Command is a regional organization with a mission to find out what threats are due to vector-borne diseases and provide practical solutions to community at risk to military community. Northeast surveillance of mosquitos and ticks
       - 2-3 staff members for Entomology division, 4-6 people for Laboratory services divisi
       - Area of responsibility: 15 major medical treatment facilities east of Mississippi and their satellite facilities in 13 states and the Caribbean including PR.

- Ben and Alex have been trying to train/help health facilities staffs so that meaningful entomological surveillance can take place.
- We conduct ticks and mosquito surveillance. Asian longhorn ticks was among the species of interest for tick surveillance.
- Variety of traps are used for mosquito surveillance but ovicaps has been the main choice or surveillance for low cost and ease of operations.
- Mosquito surveillance started in 1989 when *Ae. albopictus* showed up at the shore of Texas. Overtime, increasing number of military installations picked up *Ae. albopoictus.*
- Starting in 1999, *Ae. japonicus* were detected and displaced *Ae. albopictus* in some places.
- His team detected *Ae. vittatus* in a flower pot saucer in a backyard of the family housing at the naval base in Cuba. The species still present in Cuba.
- We provide many training and prevention informing people of how to prevent mosquitoes.
- We come up with response plans for vector-borne disease outbreaks.
- We collaborate with academic researchers.
- Laboratory services division detects variety of pathogens transmitted by ticks and mosquitoes.
- Our dataset as well as available samples can be used by researchers interested in data analysis of our surveillance data.

  - Q&A:
    - Grayson Brown asked Ben networking with military folks in Puerto Rico.
    - We have similar challenges as others in convincing the value of entomology. We have to constantly remind the higher command the importance of entomology.
    - *Ae. vittatus* work is being conducted in collaboration with WRBU but open to explore outside collaborations.
    - Tick summit group or CDC tick-borne disease working group are out there working on tick-borne diseases

3. Program update
   - Year 3 funding for BEACONS project from Southern Integrated Pest Management
   - Please help distribute this survey to any public health or mosquito control agency managers: https://ufl.qualtrics.com/jfe/form/SV_2mZEEhGUddv4GJ8
   - BEACONS website: https://fmel.ifas.ufl.edu/invasivemosquito/ Please check and let me know if your name is missing from the member page and/or other content to be linked to the BEACONS website.
   - Funding opportunities of interest to the members – please let us know if you like to have discussion/consultation on the following programs:
     - USDA CPPM ARDP - https://www.nifa.usda.gov/grants/programs/crop-protection-pest-management-program
     - USDA Rapid - https://www.nifa.usda.gov/grants/programs/agriculture-food-research-initiative-afri/rapid-response-extreme-weather-events-across-food-agriculture-systems-a1712