SOCIETY FOR VECTOR ECOLOGY

SOVE Newsletter 47 (2)

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SOVE Newsletter

President's Message

Bülent Alten

Dear respectable members of SOVE,

Presently, the Middle East is one of the hottest regions in the world. Innocent and vulnerable people are bearing the brunt of what has become the worst humanitarian crisis of the 21st century. Around 12.2 million people within war-torn Syria now require humanitarian assistance. Almost half of these are children. Over four thousand schools have been destroyed, and the country's health system has literally collapsed. Water supplies have been cut and food is in short supply, particularly for the 4.6 million living in besieged, hard-to-reach areas.

Prolonged civil unrest in Syria has resulted in the translocation of large numbers of Syrian nationals seeking refuge in neighboring countries, including Turkey, Lebanon, Egypt, Iraq and Jordan. United Nations High Commissioner for Refugees (UNHCR) is currently addressing the concerns of more than 6 million refugees who are directly affected by the violence in Syria. Results of a field survey conducted by the Republic of Turkey Disaster and Emergency Management Presidency (AFAD) indicates that more than 3 million Syrians are hosted in Turkey of which 500,000 are placed in the camps with unprecedented strain on communities, infrastructure and services. Unfortunately, the projections in 2015 indicate a continued outpouring of refugees to neighboring countries with an uncertain timetable for return.

Along these border zones, several large refugee camps exist, and the immediate welfare and health of those displaced persons are of international concern. In this region of the Middle East, insect vector populations are high, due to ideal breeding habitats, favorable climatic conditions, and lack of vector control, yet the faunal composition and vector status remain poorly defined. Endemic malaria is common, but unexplained fevers in the regions may well be due to arboviral diseases such as West Nile, chikungunya, dengue, or sand fly fevers, or protozoal diseases such as leishmaniasis, spread through the bites of infected mosquitoes and sand flies.

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With the collaborative project entitled, "AFHSC-GEIS project identification, incrimination and insecticide resistance of mosquito and sand fly vectors of pathogenic organisms present in refugee zones along the Syrian borders (Turkey and Jordan)," conducted by the Walter Reed Biosystematics Unit-USA, Hacettepe University, Turkey, and Hashemite University, Jordan, we proposed in 2014 a snapshot approach, covering three field seasons, to assess the prevalence of mosquito and sand fly borne diseases in the areas along the Turkish-Syrian and Jordanian -Syrian borders, including within refugee camps. Data gathered would ascertain species of sand flies and mosquitoes present; determine pathogen presence and cycle of disease transmission.

This project is very unique and a novel approach because vectors will be unequivocally identified through retrospective correlation of their DNA barcodes. Surveillance data and resultant risk maps will be invaluable in the implementation of vector control interventions. Results will be of immediate interest to health officials in Jordan, Turkey and neighboring countries, and would also serve to furnish informed preventative health strategies in civilians.

The three specific objectives of the project are: 1) To screen wild-caught samples by polymerase chain reaction and relevant bioassays to assess the diversity and prevalence of arboviruses and other pathogens (including *Plasmodium, Leishmania*) in these regions of Turkey and Jordan, and to unequivocally verify the identity of any pathogen positive specimens through DNA barcoding. Genome sequencing will be carried out for unknown viruses detected; 2) To update vector distribution maps through VectorSurv and develop risk maps for this region through the Mal-Area Calculator (MAC), both available through the GEIS-funded vector surveillance tool, VectorMap; and 3) To extensively disseminate this information through scientific reports to the Ministries of Health in both Turkey and Jordan, UNHCR, WHO-Middle Eastern Region, and to scientific colleagues worldwide through timely scientific publications. The results of prior field studies are currently being evaluated.

As SOVE president, I am very happy and proud to be a member of this project and wholeheartedly invite all colleagues to join me in this project .

Best regards,

Bulent Alten

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On the horizon……...

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World Mosquito Control Association

established through the collaborative efforts of many individuals, dubbed founding members, is located in Corona, California ,USA. Look for the mission, goals, and other details of the WMCA in the next SOVE Newsletter ... .., reporting *Major Dhillon*

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Regional Reports

NORTHWESTERN USA

David G. Sullivan, regional director

West Nile Virus has been detected in mosquito pools in Washington, Idaho and South Dakota, also in birds in Washington, South Dakota and Utah. No human or horse cases have been reported as of this date. Imported dengue virus has been reported in Washington and Idaho and imported chikungunya virus in Washington and Colorado.

Colorado has reported a 16 year old boy who died with plague on June 5th in El Paso County. The last human case of plague was in 1991. Colorado also has reported a Hantavirus related death in January, although Hantavirus is relatively rare in Colorado with usually around 4 cases per year. Health officials have also reported 11 cases of tularemia since January and one rabid bat in Pueblo County.

Idaho has reported that Plague has been detected in Ada County (Boise) and Canyon County (Caldwell).

The Northwest Mosquito and Vector Control Association (NWMVCA) held its Spring Training Workshop in West Richland, Washington on April 3 and 4; the workshop was well attended by all states in the region.

The Northwest Region was well represented at the American Mosquito Control Association Washington Day event. Oregon, Washington, Idaho, Montana, Utah, and Colorado had one or more representatives.

Due to weather related issues there is not much more to report at this time.

Finally, on a sad note, it is sad to report the passing of Dr. Jimmy Olsen who will be truly missed by his friends in the Northwest.

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Regional Reports

NORTHEASTERN USA
Isik Unlu, regional director

I was introduced to the Society for Vector Ecology in 2000 during the 13th European SOVE meeting by my professors Bulent Alten and Nurdan Ozer, while I was a graduate student. I feel very privileged to be involved with the group once this time as a northeast regional representative. We had a very cold winter in the northeastern US with the 3rd coldest February since 1895 in New Jersey. We had weeks of delay for first *Ae*des *albopictus* adults this year in Mercer County, NJ. Cold winter was followed by drought, the 3rd driest May on record. In June, we are having difficulties to find two consecutive days without rain to set up traps. Disease surveillance has started around June and most of the submitted pools were positive for West Nile virus (WNV) and eastern equine encephalomylitis (EEE). I am particularly grateful to my colleagues in the northeast who contributed to this update; they include Ted Andreadis, John Shephard, Goudarz Molaei, Tim Deschamps, Scott Crans, Randy Gaugler, Eric Williges, Victoria Thompson, Dave Lawson, Priscilla Matton, Paul Capotosto, Charles Lubelczyk, and Graham Alan. Individual state reports are provided as follows:

Connecticut
The Connecticut Wetlands Habitat and Mosquito Management Program just finished a Tiger Beetle Habitat Restoration Project on the Connecticut River in Higganum. Paul Capotosto and his colleagues got a US Fish and Wildlife Service Special Use Permit to do mosquito surveillance only on the Stewart B. McKinney National Wildlife Refuge where no mosquito control is permitted unless there is a declared public health emergency with either WNV or EEE.

Connecticut Agricultural Experiment Station (CAES) recently announced a 7% increase in the prevalence of infection with *Borrelia burgdurferi* in blacklegged ticks (*Ixodes scapularis*) submitted to the Tick Testing Laboratory thus far this year. The CAES also announced an expansion of the program to include testing for *Anaplasma phagocytophilum*, and *Babesia microti*. Goudarz Molaei is directing the Tick Testing Program; he is also in collaboration with mosquito control agencies as well as Yale University conducting a study on the population genetics of *Culiseta melanura*, the main vector of EEE in eastern US and Canada.

Massachusetts
Norfolk Mosquito Control District (Dawe Lawson).The cold weather was long lasting and the snow on the ground was deep, and it all simply delayed the start of larval hatch in mosquitoes in Norfolk County. It seems like by mid-April the larvae were about a week behind an average spring. But as the snow melted, Massachusetts entered an extraordinarily dry month of May. The duration was not long enough to prevent a fairly normal spring hatch of mosquitoes, but there were certainly a fair number of annual breeding sites that dried up prematurely preventing some mosquito hatching. The beginning of June saw a return of the cold weather and ultra-low volume (ULV) adulticide applications were cancelled on many nights due to the cold.

Bristol County Mosquito Control (Priscilla Matton). *Aedes albopictus* has been collected routinely each summer since 2009 from a localized population in New Bedford, MA. The 2014 season was a quiet one for WNV in our county with only 8 positive pools and *Culex* populations for this season so far are similar to that of 2014. Overall request for service, mostly adulticide requests are up 60% over last year's during the month of June. Temperature and weather will determine the outcome of the current season.

Central Massachusetts Mosquito Control Project (CMMCP)(Timothy D. Deschamps).We are on track for our busiest season ever. For the year we have received 244% more service requests than average; 10,508 requests to date compared to the 12 year average of 4,308. To date 7,410 service calls have been completed despite weather conditions that continue to cancel or postpone spray operations. *Coquillettidia perturbans*, *Culex* species and *Culiseta melanura* numbers are below average, and if this trend continues then we may not have a busy EEE season this year. With *Culex* numbers about average or higher in some trap locations we are preparing to see WNV in selected areas in Central Mass. Over 26,000 catch basins have been treated for *Culex* mosquitoes. This year, 250 samples containing 6,996 mosquitoes from 8 species have tested negative for WNV and EEE. The City of Gardner recently joined the CMMCP service area; this brings our total to 41 communities in both Worcester and Middlesex counties, covering almost 730 square miles.

New Jersey
Center for Vector Biology (Scott Crans, Randy Gaugler). Scott Crans presented a 90 minute lecture for new public health officials on mosquito control in New Jersey outlining state and county responsibilities during National Mosquito Control Awareness Week. The Rutgers Mosquito Ecology Biology Surveillance and Control course had its largest enrollment since the 2001 with 22 students (all from mosquito control agencies) completing the three part semester long course. Vector surveillance reports for the beginning of 2015 currently show *Cs. melanura* populations at or below historical records with no EEE activity…... see *Unlu* p. 5.

Continued from Unlu, p. 4

and only one WNV positive pool of *Culex sp*. reported to date. Likewise the 2015 statewide adult mosquito surveillance season is off to a slower than normal start with most adult mosquito populations at or below historical trends with the exception of *Cq. perturbans*. These weekly reports can be found by following the link http://vectorbio.rutgers.edu/reports/mosquito/index.php

State Mosquito Control Commission (Eric Williges). Mosquito control work has gotten off to a strong start across the state, with all county agencies working hard to serve their local communities; however, mosquito populations have been very varied so far this year. The biocontrol program in New Jersey has been active all season so far, with over 180,000 fish of multiple species stocked at sites across the state in coordination with county mosquito control agencies. This year New Jersey will routinely test mosquito pools for WNV, EEE, chikungunya, and dengue. Our state labs will retain the ability to test for St. Louis encephalitis and La-Crosse virus in mosquito pools if an increased risk of disease transmission is seen.

New Jersey Mosquito Control Association (Victoria Thompson). We are almost half way through the year already and mosquito activity will once again draw the attention of the public to their existence. The spring mosquito season was looking "good" from an early season univoltine snowpool mosquito species perspective. But spring rains have been light and below normal for most of our area with resulting larval production spotty. Depending upon where you look in the state some sites flooded normally and have been producing abundant mosquitoes whilst others are nearly dry. Habitat is prime for that first good flooding of the year.

Maine

Maine Medical Center Research Institute Vector-borne Disease Laboratory (Charles Lubelczyk). In late summer of 2014, Maine reported its first human case of EEE in a human from York County, our most southwestern county. This has followed numerous years of zoonotic and entomologic virus activity ranging statewide in scope. The discovery of this case has galvanized efforts in three areas pertinent to public health: 1) Expanded mosquito surveillance – current activities are concentrated in Aroostook, Cumberland, Oxford, Waldo, and York Counties, ranging from southwestern Maine to the northern border. There are preliminary plans to expand some surveillance to the mid-coast as well as western areas, bordering New Hampshire (near recent reports of EEE activity in the White Mountains area); 2) Disease reporting – current disease reports of a veterinary or human nature are kept at the county level to preserve privacy concerns. One suggestion is to report by 'Healthy Maine Partnership Districts,' a loose coalition of 27 health care districts at statewide level; and 3) Emergency mosquito response – currently, Maine has no official program for aerial mosquito spraying; much of the decision making is left to the municipalities in the event of a disease incident. However, a project has been initiated to try and craft a state emergency management response to mosquito-borne disease outbreaks.

Vermont

Vermont Agency of Agriculture, Food and Markets (Alan Graham). Our primary trapping focus is on habitat where we might find *Cs. melanura*. We have increased surveillance in urban centers using gravid traps located at wastewater treatment facilities, looking for *Culex* species that may be carrying WNV. The Vermont Department of Health is testing pooled mosquitoes for EEE and WNV. The State of Vermont has been funding tick surveillance to establish risk levels for anaplasmosis, babesiosis, and borreliosis. In the fall of 2014, we completed our fifth year of deer and moose serum-sampling to look for antibodies to vector-borne pathogens in the state. Preliminary results of more than 2000 animal samples have indicated that these animals have been exposed to EEE in each of Vermont's 14 counties.

Personnel Changes

In addition to updates on agency activities in the region, personnel changes in New Jersey have been reported as follows: Priscilla Matton, from Bristol County, has been recently appointed to the superintendent position. Ary Faraji joined the Salt Lake City Mosquito Abatement District, Utah in July 2014; he was replaced by Isik Unlu as the new superintendent for Mercer County, NJ. Linda McCuiston retired from Center for Vector Biology, Rutgers University and Kshitij Chandel was hired to maintain the mosquito colonies. Andrea Egizi was hired as the lead researcher at the Monmouth County Tick-borne Diseases Lab, NJ.

Note from a former SOVE President: (unedited)

Date: April 28, 2015 at 9:24:56 AM PDT
Subject: (no subject)
To: mdhillon@northwestmvcd.org

Congratulations{sic-Dhillon} of the AMCA award. It is nice to see good work awarded. I continue to be amazed at how SOVE has grown and how professional it has become. It truly is an import tool for science. What has happened in Europe is amazing. I remember sitting in my office in Geneva and sending letters to European entomologists promoting SOVE. There was a young entomologist{sic-Norbert} in Heidelberg who also was involved as were several from the UK. Now our President is from Europe. Pretty good I would say. I was surprised to read of Harry Pratt's death. I first met him in 1952 in the original downtown office of CDC. Old entomologists are like old parasitologist, they seem to last a long time. He was quite a guy and sure helped
me when WHO gave courses. Again, Congratulations.

Bob Tonn

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46th Annual Conference
Society for Vector Ecology
September 27 – October 1, 2015
Location: Embassy Suites
Albuquerque, New Mexico

For more information on the conference, go to:
http://www.sove.org/SOVE%20folder/Conference.html

For specific item of interest, use the following links:
Click here to register for the SOVE 46th Annual Conference
Click here for the link to the Embassy Suites Hotel SOVE registration page
Take a look at the rough draft of the Scientific Program
Will you be presenting a poster at the 46th Annual SOVE Conference?
If so, click here to access the Poster Presentation Form

For Your Calendar

The International Symposium on Ectoparasites of Pets, the Livestock Insect Workers Conference, and the American Association of Veterinary Parasitologists (AAVP) will hold a joint conference in Boston, MA; July 11-14, 2015. For more information, visit AAVP.org, or e-mail NHinkle@uga.edu.

The annual meeting of the Northwest Mosquito and Vector Control Association will be held October 7-9, 2015 in Osoyoos BC, Canada. US delegates will require a current passport to enter Canada. Driver's licenses are no longer valid for Canadian border entry (David Sullivan)

The 64th Annual Meeting of the American Society of Medicine and Hygiene will be held October 25-29, 2015 in Philadelphia, PA.

The 61st Annual NMCA Meeting will be held at the Newport Marriott in Newport, RI from December 7-9, 2015.

The 81st Annual Meeting of the American Mosquito Control Association will be held in Savannah, GA; February 7—11, 2016 29. www.mosquito.org.

The 13th Arbovirus Surveillance and Mosquito Control Workshop will be held at Anastacia Mosquito Control District (AMCD), St. Augustine, FL, March 29-31, 2016. For more information about the workshop, visit the AMCD website: www.amcdsjc.org

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Jobs

No job listings available this quarter.

Free Resources

For FREE resources for investigators, please visit: http://www.niaid.nih.gov/labsandresources/resources/dmid/Pages/default.aspx to see a full range of available services that provide access to research tools and technologies and preclinical and clinical services to facilitate product development.

Visit Vector Biology Resources for Studying Vectors for a listing of available resources. These include among others a provision of LIVE vectors, reagents and genomic materials offered through the BEI Resources Repository. (see Vector Resources in the BEI online catalog.) These resources are available free of charge to REGISTERED users in domestic and foreign institutions and NIH grant funding is not required. For information on all resources for researchers provided by DMID, visit the DMID Resources for Researchers website.

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We are on the Web!
www.sove.org

About SOVE . . . . .

The Society for Vector Ecology is a professional organization formed in 1968 by a group of individuals involved in vector biology and control programs in California. The membership has since grown to represent an amalgamation of diverse research and operational and extension personnel from all over the world. The Society is committed to solving many complex problems encountered in the field of vector biology and control. Among these are the suppression of nuisance organisms and disease vectors through integration of control elements, such as environ-mental management, biological control, public education, and appropriate chemical control technology.

The Society publishes the biannual Journal of Vector Ecology that contains research and operational papers covering many phases of vector biology, ecology, and control. The Society also distributes a periodic newsletter and holds an annual conference in the months of September/October.

SOVE Board Members, Editors, Webmaster