SOCIETY FOR VECTOR ECOLOGY

SOVE Newsletter 47 (3)

September 2015

SOVE Newsletter

46th Annual Conference

The 46th Annual Conference of SOVE was held September 27 – October 1, 2015 in Albuquerque, New Mexico. Except for the field - day trip, all conference activities were held at the Embassy Suites facilities. The conference attendees (160) mostly from different parts of the U.S. were joined by colleagues from Austria (1), Canada (1), China (1), Greece (1), Indonesia (1), Saudi Arabia (1), South Korea (2), Switzerland (1), Turkey (2), and UK (1), all sharing the same interest in vector ecology and control. The conference offered a variety of opportunities to learn and share new research findings and new approaches/methods used in the ecology and control of disease vectors.

The conference program had 8 symposia (including one on student oral presentations), one poster session (30 posters), and an ecological field trip. On Monday morning, September 28, the conference was announced open with a welcome and award presentations by vice president Michael Kaufman (see pictures on page 9), followed by announcements by secretary/treasurer Major Dhillon and presidential address by SOVE president Bulent Alten. The keynote presentation, "Where vectors collide: determinants of co-existence or exclusion in invasive mosquitoes" was given by Phil Lounibos. A short note on the International Congress of Entomology 2016 by Walter Leal; Ticks: ESA's tick IPM recommendations by Rebecca Trout Fryxell; and the overseas SOVE regional reports for Euoro SOVE by Eva Veronesi and Asian SOVE by Qiyong Liu, followed before the coffee break.

The conference symposia in the order presented were as follows:

1: Modeling in vector ecology research
2: Vector-microbe interactions
3: Innovations in vector Ecology
4: New approaches to *Culicoides* and sand fly control
5: Student oral presentations
6: Molecular genetic approaches to vector ecology
7: Flies as vectors of disease
8. Development of repellents and insecticides

Besides symposia and poster session all offered indoors, on September 29, there was a full day of an ecological field excursion to the Acoma Pueblo some 60 miles west where the group was given a guided tour which ended in a visit to the museum and sack lunch at the Pueblo visitors' center. Next, the group was bussed to Petroglyph National Monument at the outskirts of

Albuquerque, where a park official gave a short presentation on the history and importance of the Monument. The group spent some time wandering around the trails searching for signs of petroglyphs before it was time to head back to the city for a hosted dinner at El Pinto restaurant. (see conference pictures on pages 5-7)

Conference sponsors:
Mir Mulla, Central Life Sciences, Clarke Mosquito Control, Valent BioScience Corp., ADAPCO, Inc., AMVAC, Bayer environmental Sciences, MGK Company, Culinex, FMC, Dhillon Land Co.

In this issue

Outgoing President 's Message

My Dear Colleagues,

It has been an honor to serve as President of the Society for Vector Ecology this past year, the 46th year of our organization. I tried to serve my best to the SOVE family during one-year term between September 2014 and September 2015. This year has been particularly awarding for me as President of SOVE and I appreciated the experience to serve the society which has worked to combat the threat of vector-borne disease in each continent of the world. In September 2015, I handed over the gavel to Dan Kline, our new president of SOVE.

During my term, I had the opportunity to be a participant at the wonderful three SOVE conferences, 45th Annual SOVE Conference in San Antonio, Texas as president-elect, the E-SOVE Conference in Thessaloniki, Greece as president, and 46th Annual SOVE Conference in Albuquerque, New Mexico as president. I would like to offer my thanks to Douglas Norris, Dan Kline, Michael Kaufman, Major Dhillon and Eva Veronesi for organizing these superb conferences. Michael Kaufman organized an amazing scientific program for our Annual Conference in Albuquerque, New Mexico, held September 27 - October 1, 2015. These were three amazing meetings full of excellent scientific presentations on virtually every component of vector-borne diseases and their control methods with high quality speakers. On the other side, I am also very happy to see an increasing number of young scientists and PhD students attending these conferences. It is an important task and I hope we continue to encourage and support their participation. I also thank the Board members and staff of local organizers and Northwest Mosquito and Vector Control District, Corona California for providing expert and administrative support for the conference. Many people helped me during the last year, but I would like to especially thank Major Dhillon, Valerie Montigny and William Van Dyke for their amazing support and friendship.

As you know, we have the respected journal, Journal of Vector Ecology and fantastic SOVE Newsletter. Our Journal editor Marc Klowden is putting an extraordinary effort into our Journal. I know this is not an easy task but because of him, the Journal continues to attract high quality papers from national and international authors with significant impact. In addition, because of editor Lal Mian, the face and content of our newsletter have been changed. I very much appreciated working with both of my friends and I say a special thank you to both Marc and Lal.

Finally, it is important to remember that SOVE is a family and working together as friends on our scientific pursuits. I wish you a happy and healthy life full of peace in the world.

Best regards

Bulent Alten

Incoming President's Message

Dear Colleagues,

I want to thank the Society of Vector Ecology membership for the privilege of serving as your President for the current year (2015-2016). I especially want to thank outgoing President Bulent Alten for his inspiring leadership and continued service to SOVE (he will be the program chair for the 7th International SOVE Congress). His shoes will be difficult to fill and his presidential messages difficult to match. I want to also express special thanks to President-Elect Michael Kaufman for the excellent scientific program that he put together for the recently concluded 46th Annual SOVE Conference held in Albuquerque, New Mexico, September 27-October 1, 2015. This program was very stimulating, consisting of 8 symposia and 1 poster session. The program covered a wide diversity of research topics extending from classical ecology, biology, behavior, and modeling to operational application technologies utilizing knowledge gained from basic studies with the most current and cutting edge molecular technologies. The field excursions were also very interesting allowing a chance for the membership to socialize. The scheduled excursions were to the Acoma Pueblo and Petroglyph Monument. Despite his Herculean efforts of Mike Kaufman, few , if any, members took the alternative excursion to a remote laboratory located in the desert made famous in "Breaking Bad".

Major Dhillon continuingly reminds the Board members that that SOVE is a family. There were several "family activities" which occurred this past year that are very noteworthy. Eva Veronesi (E-SOVE President) and her colleagues organized the 19th E-SOVE Conference, which was held in Thessaloniki, Greece, October 13-17, 2014. Attendees called it a "fantastic" conference. Activities included a 2-day training course on vector control, surveillance, monitoring and identification of various vector groups. This training session occurred the 2 days prior to the regular conference. The 20th E-SOVE Conference will be held in Montenegro in early October 2016. I had the opportunity to attend The Asian Society for Vector Ecology and Mosquito Control (ASVEMC) sponsored 4th International Forum for Surveillance and Control of Mosquitoes and Mosquito-borne Diseases held in Guangzhou, China, May 25-28, 2015. The meeting theme was, "Promotion of biorational and environmental control for mosquitoes and mosquito-borne diseases." The keynote speaker was a recent Past-President of SOVE, Dr. William Walton, Professor of Entomology, University of California, Riverside, CA. I had the privilege of installing the new officers for ASVEMC. It was a great meeting. Dr. Qi-Yong Liu is the new President, replacing Dr. Tong-yan Zhao, who did an excellent job during her term in office.

In addition to thanking the SOVE membership for their participation in SOVE activities (an organization is only as strong as its membership), I want to acknowledge the contributions of several individuals. Of course that begins with recognizing the contributions of Major Dhillon. He has made SOVE a strong society financially and otherwise. His staff's contributions have always gone a long way in making SOVE conferences a success. Specifically, I want to thank Valerie Montigny and Bill Van Dyke. I also want to thank Marc and Anne Klowden for their continuing efforts to ensure the timely publication of the Journal of Vector Ecology. The Journal of Vector Ecology provides open access to its content and offers members an opportunity to publish their scientific findings at a reasonable cost in a high quality venue. Online open-access publishing continues to increase its representation in scientific publication. I also want to acknowledge Lal Mian's excellent job as editor of the SOVE newsletter. It's not easy getting everyone to send him their reports in a timely manner.

The support of the SOVE Board is acknowledged. I look forward to working with President-Elect Mike Kaufman, newly elected Vice President Lal Mian (he will be program chair for the 2016 annual conference so get your symposia ideas to him early), Past- President Bulent Alten, and Regional Directors Steve Presley (South Central), Isik Unlu (Northeastern), Woody Foster (North Central), Rui-De Xue (Southeastern), Steve Mulligan (Southwestern), David Sullivan (Northwestern) Eva Veronesi (Europe), Qi-Yong Liu (Asia) and Paulo Pimenta (Brazil). These Regional Directors need your input for their newsletter reports. They need information about member awards, grants, promotions, job changes, job opportunities, program issues, research activities, etc. I am proud of SOVE's support of students. Their participation strengthens our society. It is a goal of the SOVE Board to continue and even enhance this support. SOVE also appreciates the support of the corporate sponsors.

The venues for our 2016 SOVE Conference and the 7th International SOVE Congress have not yet been finalized, but stay tuned there will be some announcements made in the near future. What has been determined is that the 2016 SOVE Conference will be held in Alaska.

Best wishes,

Dan Kline

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Regional Reports

NORTHEASTERN USA

ISIK UNLU, regional director

The summer of 2015 was a relatively quiet season for the northeastern US for both service requests and disease surveillance. The area experienced low to moderate drought conditions.

I am grateful my colleagues in the northeast who contributed to this update with their names shown in parenthesis. If you have any issues or concerns that you would like to convey to the SOVE Board of Directors to discuss, please feel free to contact me (iunlu@mercercounty.org). Individual state reports are provided below:

Personnel Changes

Moses Cucura, was recently hired to lead the tick program at Suffolk County Vector Control Division, NY.

Kaitlyn O'Donnell started as an entomologist for Norfolk County Mosquito Control District, Massachusetts, effective 9/8/2015.

Isik Unlu (Mercer Co.) and Greg Williams (Hudson Co.) received adjunct professor status at the Department of Entomology, Rutgers University, NJ.

Connecticut

Connecticut Agricultural Experiment Station, Center for Vector Biology & Zoonotic Diseases, New Haven, CT (Philip Armstrong, John Shepard and Michael Thomas). As of October 6, 2015, a total of 157 isolations of West Nile virus (WNV) were made from 10 mosquito species between July 20 and September 29. The majority of WNV activity was detected in densely populated urban and suburban regions in southern Fairfield and New Haven counties. There were 6 human cases of WNV acquired locally with no fatalities. There was no eastern equine encephalitis (EEE) virus activity detected in mosquitoes, equines or humans. Other mosquito-borne viruses isolated included: Jamestown Canyon virus 12 isolates; Cache Valley virus 23; Potosi virus 5; Trivittatus virus 1; and La Crosse virus 1.

Massachusetts

Norfolk Mosquito Control District (Dawe Lawson), this year experienced the lowest number of service requests and ULV applications in the last five years. Virus activity was low as well, with only 3 WNV isolates in mosquitoes from the City of Quincy.

Bristol County Mosquito Control (Priscilla Matton) reported 14 mosquito pools positive for WNV as of 10/1/2015. There was no EEE activity detected in mosquito, animal or human samples tested within the County. They continue to collect eggs and adult *Aedes albopictus* from sites in New Bedford.

Berkshire County Mosquito Control (Chris Horton) started its arbovirus surveillance on June 15th and had the first WNV isolated from a Culex mosquito collected on 7/8/15 with 7 additional isolations by 9/3/2015. Overall *Culiseta melanura* collections were small with no EEE isolations reported so far.

Central Massachusetts Mosquito Control Project (Timothy D. Deschamps) this year had a 14% increase in service calls and 28% increase in *Culex* spp. over 2014. As of October 1, there were 9 pools positive for West Nile virus and 1 for the season.

Suffolk County, Long Island New York (Ilia Rochlin) has one of the highest rates of tick-borne diseases in the country and severe infestations by the lone star tick, *Amblyomma americanum,* in many areas. Suffolk County Vector Control Division has been tasked with developing a county-wide tick control program, providing technical advice to other agencies and communities conducting tick control, supplying specimens for tick pathogen surveillance, and testing new tick control products and techniques.

New Jersey

Center for Vector Biology (Scott Crans and Randy Gaugler). This has not been a really unusual year with regard to WNV infections. More *Ae. albopictus* pools showed up positive but this is likely due to the inclusion of testing *albopictus* for dengue and chikungunya and the subsequent increased effort by the mosquito control agencies. Twenty-five human cases (2 fatalities) of WNV have been reported in Bergen (2), Burlington (4), Camden (1), Cumberland (5), Essex (2), Gloucester (2), Hudson (1), Hunterdon (1), Middlesex (2), Monmouth (3), Ocean (1) and Passaic (1) counties. For further information, see http://www.state.nj.us/health/cd/westnile/techinfo.shtml. No horse cases have been detected.

Maine

Maine Medical Center Research Institute Vector-borne Disease Laboratory (Charles Lubelczyk). The year 2015 started with a very deep snow pack, resulting in increased breeding habitat for snow pool mosquitoes, particularly black-legged *Aedes*. However, after mid-June, little precipitation translated into fewer number of WNV and EEE virus bridge vectors, even though enzootic vectors (*Culex* spp. and *Culiseta* spp., respectively), remained constant.

……*NE report cont'd on p. 6*

Regional Reports

EUROPEAN SOVE

EVA VERONESI, regional director

This year has been the hottest summer for Europe with July all-time record temperatures close to 40°C in Italy, Germany, and Spain and 36-38°C for Poland, Czech Republic and UK. Obviously this had a huge impact on vector abundance all over Europe. These climatic conditions favor the spread of *Aedes albopictus* with density much higher than usual leading to difficulties in its control, coupled with introduction into new areas such as France, where this species was never found before. Area of distribution has also expanded for *Ae. japonicus* (within Belgium, the Netherlands, Austria, Switzerland, France, Germany, Slovenia) and *Ae. koreicus* (Belgium, Italy, Switzerland). Interestingly, *Ae. aegypti* was found for the very first time in Turkey (late September), thanks to VectorNet project. This has huge implications in a territory that is experiencing tremendous movement of people from neighboring war affected countries such as Syria, where very little is known about vector-borne diseases. For more on this subject, please go to: www.syriaproject.info, a very interesting project ("Arboviruses on the Syrian border") aimed to assess the risk of vector-borne disease incursions along the borders of war affected countries.

There has been continuous flow of imported cases of chikungunya in Europe, reaching 86 cases in Spain and 27 in France, with no autochthonous transmission so far. Besides new imported cases of dengue virus (up to 100 in France), we did find six autochthonous cases in southern France (Nîmes), an area with a high density for *Ae. albopictus.* In addition, the prevailing hot climate could not prevent the continuous spread of West Nile virus, reaching Portugal by mid-September (one human case in Algarve Region), Austria (with its first case), northern Italy (more cases), and finally the Balkan area (Serbia).

On the veterinary side, the bluetongue virus (BTV) is continuing its spread not only in the Balkans (Romania, Hungary and Croatia) with serotype 4, but even the more worrying serotype 8, which has re-appeared in France since the country was declared BTV-free in 2012. Animal restricted movement programs are now in place while vaccination strategies are more difficult as there are not enough vaccine doses available to cover all the susceptible animals. Moreover, if an extensive vaccination campaign is not followed next year, the risk of a wider expansion of infected areas will be inevitable. Neighboring countries are on alert and surveillance programs are a priority at this time.

In Europe, some remarkable networking activities are also in progress. VectorNet (EFSA/ECDC project) has started its field activities looking to fill the gaps in vector abundance all over Europe. The project is actually covering areas from non-EU countries which so far has demonstrated a paramount significance as new sandflies species, together with *Ae. aegypti* new records, were reported in the Balkans and Turkey, respectively. EurNegVec, http://www.eurnegvec.org, another European networking project including 34 countries, is continuing its activities of training and education on vector-borne diseases establishing a powerful transboundary network of partner institutions across Europe under the One Health concept. Another interesting EU project is the MediLabSecure, but the Institute Pasteur (Paris) aimed to build collaborations for surveillance and monitoring of emerging vectors of arboviruses among non-EU countries. Two training courses with a very large participation have been organized so far: Novi Sad, Serbia (June 2015) and Ankara, Turkey (September 2015). Next course is due in North Africa, spring 2016, see http://www.medilabsecure.com for details. A project on standardization of methods for mosquito surveillance and control, together with implementation of guidelines, control techniques (e.g., sterile insect technique-SIT) and bioassays, is running under the name of LOVCEN (http://project-lovcen.me/index.php), which is formed by East European countries (Montenegro, Romania, Serbia) and Italy.

Last, but not least, an application for Infravec project under the EU Horizon 2010 scheme is ongoing. At this stage, they are looking to link key research infrastructures in European vector biology into a network of interacting facilities with mechanisms for reimbursed provision of access and services to other research groups (both with and without local infrastructures) and the private sector.

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Happy guys… Bulent Alten, Bill Vandyke, and Major Dhillon

Regional Reports

NORTHWESTERN USA

DAVID SULLIVAN, regional director

The Northwest Mosquito & Vector Control Association (NWMVCA) held its annual meeting on October 7-9, 2015 in Osoyoos, BC, Canada at the Watermark Beach Resort, 15 Park Place, VOH 1VD, phone 250-495-5500. The meeting was well attended and the program was well formatted.

The following SOVE members attended the 2015 NWMVCA meeting: California: Steve Mulligan, Major Dhillon, and Dennis Candito; Montana: David Sullivan: North Carolina: Gordon Morrison. Sorry if I missed anyone.

West Nile Virus has been detected in 9 states in the Northwest as shown by state (total, neuroinvasive, deaths): Colorado (83, 47, 2), Idaho (13, 5, 0), Montana (3, 2, 0), North Dakota (18, 7, 1), Oregon (1, 1, 0), South Dakota (37, 11, 0), Utah (6, 4, 0), Washington (23, 7, 1), Wyoming (4, 2, 0), and Total (188, 86, 4).

Vesicular stomatitis virus (VSV) was detected in Wyoming and Colorado in 20 locations. The VSV is transmitted by flies, sand flies and biting midges and it affects both horses and cattle.

It was reported earlier that a 16-year-old boy had died on June 5 in El Paso County, CO, from a case of plague. Since then there have been 5 additional cases of plague with a total of 3 fatalities. Prior to this year the last human case was in 1991, according to ProMED.

Colorado also reported a Hantavirus death in January; Hantavirus is relatively rare in Colorado with usually around 4 cases per year.

Health officials in Colorado have also reported 11 cases of tularemia since January. A human case of tularemia was identified in Alaska; it was the first case since 2009. Colorado also had the first human case of rabies in 50 years.

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cont'd NE report from p. 4

Maine had its reporting of its second recorded WNV case in a Maine resident, although the individual reported travelling in the Mid-Atlantic region during the possible time of exposure, so no clear area of exposure could be documented, despite extensive post-diagnosis surveillance.

Vermont

Vermont Agency of Agriculture, Food & Markets (Alan Graham). Vermont had over 90 WNV and one EEE pools testing positive. West Nile virus has been found in 10 of the 14 counties in Vermont, mostly from *Culex* mosquitoes collected in gravid traps. The EEE sample came from a resting box trap with *Cs. melanura* collected on 9/14/15 in Swanton, Vermont.

New Hampshire

State Public Health Veterinarian Infectious Disease Surveillance Section Bureau of Infectious Disease Control New Hampshire Division of Public Health Services (Abigail A. Mathewson DVM, MPH). New Heaven didn't see any positives until early September, with the first positive WNV mosquitoes collected on 9/9/2015 and first positive EEE mosquitoes on 9/17/2015. We had one bird tested positive for WNV with an onset date of 9/17/2015. For our year-to-date totals and historical data go to: http://www.dhhs.nh.gov/dphs/cdcs/arboviral/documents/arbobulletin.pdf

Pennsylvania

Pennsylvania State Repo (Michael Hutchinson). Pennsylvania's 2015 WNV surveillance and control season started off slowly, likely due in part to a relatively wet and cold spring. Through June, we had detected only 16 positive mosquito pools, but things ramped up quickly, ballooning to nearly 2,700 positive pools, the second highest ever, by October. As of October 6, PA has reported 28 probable or confirmed human cases. Numerous chikungunya, dengue and malaria cases have been reported, but none were locally acquired. Roughly 1.4 million larval and adult specimens were collected and identified. Of those, a little over 1 million gravid Culex were tested in 18,501 pools. One interesting find was a small population of *Culex tarsalis.* This species had only been found once before in PA, from a single larva, found in 1970.

The Black Fly Suppression Program was negatively affected by inadequate funding compounded by an ongoing state budget impasse. Control operations started in early spring, but were curtailed by a combination of high river flows and a lack of adequate funds.

Lyme disease and other tick-borne diseases continue to be a significant threat to PA residents. The legislature recently passed an act, which created a task force to study the scope of the problem and provide recommendations for dealing with the issue. The task force met multiple times over the course of 2015 and submitted its final report in September, which included recommendations for tick surveillance and testing.

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Regional Reports

SOUTH CENTRAL USA

STEVE PRESLEY, regional director

Once again we had outstanding poster and platform presentations (and field excursion) at the 46th Annual Conference in Albuquerque, NM. It was great to see so many in attendance, and to see the many exciting and interesting vector-focused ecological and control research efforts ongoing in the South Central Region.

Rachel Curtis-Roble, a NSF Graduate Research Fellow and College of Veterinary Medicine Merit Scholar in the Department of Veterinary Integrative Biosciences at Texas A&M University, is soliciting kissing bug specimens in support of their ongoing Citizen Science Program to collect kissing bugs and better understand the eco-epidemiology of Chagas disease in Texas and the southern U.S.A. If you have specimens to submit, or just want more information, contact Rachel at http://kissingbug.tamu.edu .

Congratulations to Joshua Darden and Michelle Ximenez on being awarded the John D. Long Undergraduate Research Scholarship ($1000 each) from the Texas Mosquito Control Association. Both are undergraduate researchers working in Dr. Megan Wise de Valdez lab at Texas A & M University - San Antonio. Josh will be looking at weather patterns and mosquito population size and distribution across San Antonio residences and Michelle will work on temporal emergence patterns in San Antonio.

After four years of severe to extreme drought conditions throughout much of the South Central United States it is amazing to see what a difference spring and early summer rains can make. However, as the drought conditions improved throughout Oklahoma and western Texas this year, drought conditions in Arkansas, Louisiana, Mississippi, and eastern Texas have worsened. With the increased rainfall came increased standing water for breeding sites, an abundance of vegetation, significant increases in avian and mammalian wildlife that might serve as amplifying hosts for pathogens, and ultimately more numerous populations of potential arthropod vectors – including fleas, kissing bugs, midges, mosquitoes, and ticks. These climatic and environmental influences on vector-borne pathogen transmission and maintenance clearly demonstrate the importance of our research to better understand vector ecology.

From available data for 2015 it appears that the cumulative number of cases of West Nile fever/neuro-invasive disease reported across the region are significantly less than the number of reported cases in 2014 (2014 = 576 cases; 2015 = 269 cases). So far this year there have been 14 reported cases of WNV infection in Arkansas, 22 cases in Louisiana, 32 cases in Mississippi, 51 cases in Oklahoma, and 150 cases in Texas. There have been 34 cases of chikungunya (imported) in the region (4 cases in Arkansas, 1 case in Mississippi, 2 cases in Oklahoma, and 27 cases in Texas. At least 19 cases of dengue (imported) have been reported in the region during 2015 (1 case in Mississippi, 2 cases in Oklahoma and 16 cases in Texas). Additionally there have been multiple reports of anthrax in southcentral Texas white-tailed deer populations, as well as large outbreaks of epizootic hemorrhagic disease (EHD) and bluetongue in Texas and Louisiana white-tailed deer herds.

If you are a member of SOVE and live in the South Central Region, please send me an email (steve.presley@ttu.edu) with any news or information (e.g., awards and grants, promotions, relocations, vector ecology news, new vector control/surveillance equipment, methods, programmatic issues, conferences, meetings, job opportunities, etc.) that you would like disseminated to the membership.

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National Petroglyph Monument, Albuquerque, NM

Regional Reports

SOUTHWESTERN USA

STEVE MULLIGAN, regional director

The invasion and spread of exotic *Aedes* mosquitoes continues unabated in California, despite efforts by local mosquito control districts and collaborations with university researchers. Initial discoveries of *Ae. aegypti* in 2013 within Madera, Fresno and San Mateo Counties now encompass 12 counties and growing. One can add to that the expansion of *Ae. albopictus* within Los Angeles County and findings in Kern, San Diego and more recently in San Bernardino County, as well as the presence of *Ae. notoscriptus* in LA County. Of course, not simply lurking at our borders, but entering into California as active imported cases, are dengue and chikungunya viruses, looking for the new widely dispersing vectors with which to effect local transmission. Combine the two and we now have the trappings for a California classic, the Hollywood horror movie. Makes one wish for simpler times, when the only invasions we had to worry about were such imaginary threats as Body Snatchers or, yeah, maybe the Russkies. Although I think that *aegypti* alone are perfectly capable of making children dive under their desks.

We are not close to throwing in the towel, however, as districts in SoCal and the Central Valley are working closely with researchers delving into novel strategies, and studying the biology and ecology of these exotic mosquitoes in these new environments to try to discover chinks in their armor. But time, as always, is of the essence, and it waits for no woman; although regulatory requirements do tend to drag on.

Susanne Kluh provides the following invasive *Aedes* update from Greater Los Angeles County Vector Control District (GLACVCD): Since the re-detection of *Ae. albopictus in* the City of El Monte in the San Gabriel Valley in fall of 2011, this invasive species has been spreading steadily. The GLACVCD's intensive control activities that relied on door-to-door yard sanitation measures and included truck-mounted larviciding and adulticiding efforts were able to contain the infestation to the initial area for several years. Unfortunately, despite putting boots on the ground, it proved impossible to eliminate this mosquito from even a small portion of the City of South El Monte. As residents transported egg-infested containers to un-infested areas and adult mosquitoes were found to hitch rides in everything from private cars to UPS trucks, new infestation areas would crop up and the infestation would continue to spread. It is more than likely that many already infested areas have yet to be identified.

With the detection of *Ae. aegypti* in the city of Commerce in October of 2014, resources had to be diverted from the battle against *Ae. albopictus* and directed towards this new invasive species. The hope to control *Ae. albopictus* is pinned upon the upcoming pilot project of releasing sterilizing *Wolbachia pipientis* infected *Ae. albopictus* males into a small area of South El Monte in cooperation with MosquitoMate and researchers from the University of Kentucky. The incompatibility between the naturally occurring *Wolbachia* infection and the *W. pipientis* leads to sterility in eggs resulting from unions of wild females with released males. Bi-weekly releases of 5,000 males began at the end of June 2015 and are still in progress. Results are expected to be presented at next year's AMCA conference.

In the meantime, the *Ae. aegypti* infested area continues to grow and *Ae. albopictus* continue to appear in new neighborhoods. Hopes of eradicating either one of these new Los Angeles County residents have been thoroughly squashed. Our primary goal now is to control populations of these day-biting invaders and to protect public health by reducing the risk of disease transmission.

Back in the Central Valley on the *aegypti* front, the Consolidated Mosquito Abatement District continues to work with University of Kentucky, MosquitoMate, Inc., and the University of California Davis on getting regulatory approval for release and evaluation of *Wolbachia* infected males, similar to what is ongoing in SoCal, but with *aegypti.* As a novel spinoff of infected male releases, the group also worked on a preliminary study to evaluate auto-dissemination augmented with males (ADAM) to disperse the insect developmental inhibitor, pyriproxyfen. Insecticide dusted males were released to mate with and transfer insecticide to wild females, whereby either could visit and treat larval development sites and cause mortality in the immature stages. Star Wars has nothing on us, if you can imagine it, we may try it. California, over and far out.

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Pictures from the Conference

WEL COME

by Vice President
Michael Kaufman

Woodbridge Foster receiving the Achievement Award from SOVE President Bulent Alten

Eva Veronesi receiving the SOVE Distinguished Service Award from President Alten

Keynote by Phil Lounibos

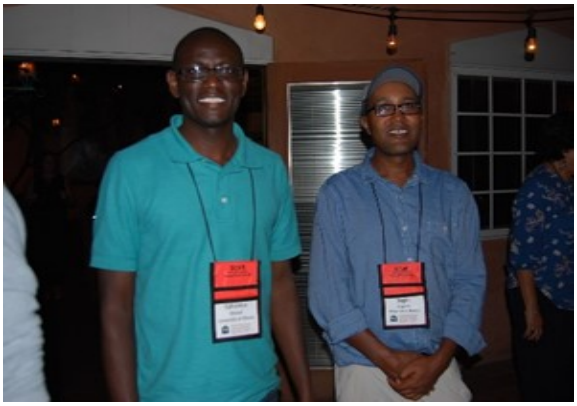
Student participants with mentors

Poster Session in progress

You think you can get into the conference without her blessing. Find out from Valerie Montigney about your chances for next year in Anchorage, Alaska.

Pictures from the field day

More picture from Filed Day activities



Congratulations Major Dhillon!

For yet another milestone to your legacy

On September 22, 2015 the Northwest Mosquito and Vector Control District dedicated its new facility in Corona, California to Dr. Major S. Dhillon. Dr. Dhillon has served the District with distinction since 1985 where he first served as the Vector Ecologist. He was promoted to District Manager in 1991. He has worked diligently to ensure development of an excellent team, resources and a quality environment that strives for continuous, positive evolution. His staff is grateful for his leadership as a manager, a mentor, and a protector of the people and communities he serves.

Dr. Dhillon is currently the Secretary-Treasurer of SOVE. He works tirelessly on their behalf organizing annual meetings, ensuring stability, growth and quality to the organization. In 2013, he was awarded the SOVE Lifetime Achievement Award. He is instrumental in driving student development through participation at the Annual SOVE Conference ensuring the future of the organization and collaboration with the most brilliant minds in Vector Ecology. He works closely with the SOVE Chapters in Europe, Asia and Brazil. He was the key person in establishing the Pan-African Mosquito Control Association. He serves on committees for the World Health Organization. Additionally, he has served as President and committee member for organizations at the local and national level. He is a founding member of the World Mosquito Control Association working to develop non-profit strategies to benefit students and vector ecologists. His efforts ensure global networking and international resource cultivation for the fields of vector ecology, vector control and public health.

Through his dedication, Northwest Mosquito and Vector Control District hopes to illuminate its grateful fortune to have Dr. Major Dhillon as the cornerstone of its efforts in protecting public health. He is a mentor, a resource to the vector community, and a beloved leader to his team in Corona, California. He has created a legacy that has impacted vector control and ecology on a global scale. Thank you, Dr. Dhillon, for thirty years of brilliant leadership. We are hoping for thirty more. Please join us in congratulating Dr. Major Dhillon as this new facility is dedicated in honor of his achievements and contributions to the District and the communities it serves.

Board of Trustees
Northwest Mosquito and
Vector Control District

Dr .Dhillon (center) holding plaque with Dr.Gary Bradley (left), Secretary and Jordan Ehrenkranz (right), President of the Board.

Dedicated Building
that also houses the
Headquarters of the Society for Vector Ecology

For Your Calendar

American Society of Tropical Medicine and Hygien. annual meeting will be held October 25-29, 2015 in Philadelphia, PA

Pennsylvania Vector Control Association meeting will be held October 28-30, 2015, at State College, PA.

Northeastern Mosquito Control Association annual meeting will be held December 7-9, 2015, in Newport, RI.

American Mosquito Control Association, annual meeting will be held February 2-7, 2016, Savanah, GA

Jobs

The laboratory of Matt Thomas in the Entomology department at The Pennsylvania State University seeks to fill up to 3 postdoctoral research positions. There are potentially two positions to look at the effects of factors such as temperature, humidity, variation in larval diet etc. on mosquito-parasite life history traits and consequences for overall vectorial capacity. There are a number of ongoing studies that the postdocs could get involved with but a couple of new projects include exploring the effects of environment on the transmission blocking potential and the fitness costs of GM mosquitoes (focus on Anopheles stephensi and Plasmodium falciparum), and investigating local thermal adaptation of Aedes (aegypti and albopictus) mosquitoes across latitudinal/altitudinal gradients, including transmission studies with dengue. The empirical work will be largely lab-based but there is also the possibility to participate in field studies. Experience with mosquitoes and falciparum and/or dengue infection would be ideal, but more important is the ability to design, implement and analyze (i.e. good statistical skills) potentially complex host-parasite experiments and life history studies. A third possible position involves evaluating the consequences of insecticide resistance for control of malaria mosquito vectors. The position will entail conducting a range of lab (and potentially semi-field) studies to determine how resistance affects the capacity of mosquitoes to transmit malaria under realistic conditions of insecticide exposure. The ideal candidate will have previous experience conducting experiments on insecticides and mosquitoes, including familiarity with WHO protocols and experience of lab and field work in Africa. Again, the demonstrated ability to run, analyze and publish complex life history studies is essential. Applications must be submitted online and include a cover letter, CV and names and contact information for three references. These are fixed-term appointments funded for one year from date of hire but with potential for renewal. The positions are available September 1, 2015. See following link: https://psu.jobs/job/59326

In addition, there are 2 research support positions available, one for an insectary technician and one for an experienced research assistant to run our Plasmodium falciparum transmission facility.

Matthew Thomas

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……courtesy Doug Norris

On the Move

University of Idaho announced that Michael Parrella will be serving as the new dean of the College of Agricultural and Life Sciences. Mike was the chair of Entomology Department at UC Davis . We wish Mike the best in his future endevors,……..., reporting Major Dhillon.

Resources

FREE Resources for Investigators are available! Please visit: http://www.niaid.nih.gov/labsandresources/resources/dmid/Pages/default.aspx to see the 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. Key among the resources for studying vectors is provision of LIVE vectors and 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!
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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

SOVE Board Members, Editors, Webmaster