SOVE Newsletter

President's Message

Uli Bernier

Dear Colleagues,

As a good number of you are already aware, I retired from the USDA on July 5, 2019. The day after my separation, I traveled to Charleston, S.C. and spent a week there. Charleston is slated as the host city for the 8th International SOVE meeting, to be held in the fall of 2021. Immediately after the Charleston visit, I joined Major Dhillon at the International Symposium on Phlebotomine Sandflies (ISOPS) X meeting, July 15-19, 2019 at the Charles Darwin Research Station, Puerto Ayora, Ecuador. The purpose behind the visit was to recruit additional SOVE members from this research community.

While in Germany several weeks ago, Hurricane Dorian was approaching the southeastern United States. Having spent most of my life in Florida, I have experienced hurricane seasons for decades, have been in locations that the eye has passed over and seen some of the devastation that can result. After a hurricane has passed, there can be a substantial amount of time required to restore services such as power, water, and mosquito control. Until they become interrupted, some individuals don't have full appreciation of how effective the interventions are.

In a few days, I will depart for the 49th Annual SOVE conference, in San Juan, Puerto Rico. I look forward to attending your presentations and visiting with you at the meeting.

The Latin American SOVE will hold its Inaugural Conference on November 20-24, 2019 in Manaus, Brazil. There will be pre-congress workshops for students and young professionals which will precede this meeting (November 16-19, 2019). We hope to see you at the conference!

Uli

See you at :

49th Annual Conference
Society for Vector Ecology
September 22-26, 2019
San Juan, Puerto Rico

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In this issue

Regional Reports

NORTHWEST REGION

David Sullivan
Regional Director

Greetings!

Since the temperature in the Northwest has drastically lowered to a more fall like condition, it appears that the mosquito season is about over in much of the region. A combination of a late spring and possibly an early fall provided a more tolerable mosquito year. There may be more West Nile virus (WNV) cases reported this year but not to the same extent as in 2018.(Table 1).

Meetings:

—Northwest Mosquito Control Association will hold its Fall meeting October 8-10, 2019, Boise, ID.

—Utah Mosquito Control Association Annual meeting is scheduled for October 13-15, 2019 in Bryce Canyon National Park, UT.

—Montana Mosquito and Vector Control Association will hold its annual meeting on January 16-17 2020, in Great Falls, MT.

—The American Mosquito Control Association annual meeting will be held March 16-20, 2020 in Portland, OR

This year, the AMCA's Washington Days were well attended by the Northwest region: Utah had a number of representatives; Oregon, Washington, Idaho and Montana each had 3 or more participants.

Table 1. West Nile virus results in the region as of 9/8/2019, compared with those of 2018.

	WNV	**Total**	**Deaths**
State	2018/2019	2018/2019	2018/2019
CO	52, 4	91, 14	3, 0
ID	10, 2	16, 4	1, 0
MT	45, 0	23, 0	1, 0
OR	2, 1	2, 3	0, 0
UT	7, 3	11, 5	1, 0
WA	1, 0	3, 0	0, 0
WY	3,1	4, 2	1, 0
Total	**120, 11**	**150, 28**	**7, 0**

Regional Reports

U.S. SOUTHTHWEST REGION

Steve Mulligan

Regional Director

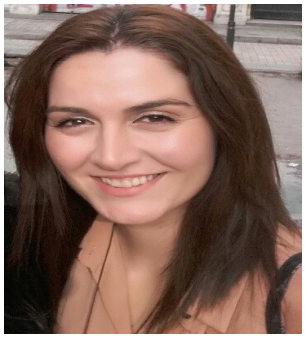
In California, *Aedes aegypti* has continued its inexorable march up the Central Valley, now detected in Stanislaus, San Joaquin, Placer and Sacramento counties. The question is how far north can this species expand and establish? Maybe climate change will tell. *Aedes aegypti* has been a game changer in California, eliciting new paradigms in response. Innovative strategies and novel techniques are being studied and public education and outreach activities seem to be on steroids, though with mixed success. (Remember we are trying to educate CA residents, and of course, we Californians already know it all.) The Debug Fresno study is in its third season evaluating *Wolbachia* as a sterile insect technique for suppression of *Ae. aegypti* and has expanded over larger areas in Clovis, CA. Greater Los Angeles County VCD is working with techniques to treat *Ae. aegypti* development in underground storm drain systems. I know this might sound like whining to those in the southeastern US, but CA ain't never seen nothing like these invasive *Aedes*. Several of the districts dealing with *Ae. aegypti* are also beset with increased activity of West Nile and Saint Luis encephalitus viruses. And if confronting the newly invaded *Ae. aegypti* were not enough, East Side MAD in Modesto will now have to deal with Wakoli Wekesa as its new District Manager. Wakoli brings a broad background of experience and extensive knowledge of mosquitoes and other vectors. Congratulations Wakoli!

Vivek Raman with the Southern Nevada Health District (SNHD) reports an unprecedented amount of arboviral activity throughout Las Vegas with 36 human cases of WN. They are also collaborating with Northern Arizona University to genetically sequence WNV isolates to determine similarities between viral samples collected elsewhere in the region. *Aedes aegypti* was first identified in a localized area of Clark County in 2017, and SNHD is collaborating with the Centers for Disease Control and Prevention to determine *Ae. aegypti* population densities and then evaluate mosquito control techniques.

Anton Cornel continues to expand outreach into states and territories within the Pacific Southwest Region COE with bottle bioassay training workshops in Arizona, California, Guam and the Pacific Islands to aid agencies in detection of levels of insecticide resistance in their mosquito populations. Cornel and his staff are also collaborating with the Hawaii Department of Health to evaluate the efficacy of In2Care traps to reduce populations of *Ae. aegypti*.

Vicki Kramer from the California Department of Public Health Vector-Borne Disease Section has provided the following update, as of August 23, 2019.
In California, 2018 was a record year for flea-borne typhus. Both Los Angeles and Orange counties reported an increase in case numbers compared to annual totals over the past few decades. In 2019, 63 typhus infections have been reported, slightly fewer than the 79 flea-borne typhus infections reported through August 2018. While less common, cases of tick-borne relapsing fever (TBRF) continue to be reported in California. In 2019, six TBRF infections were reported with suspected exposure in California's Mono, Nevada, and El Dorado counties. Two of these cases were associated with family clusters where exposure is suspected to have occurred in the same rural cabin. While also uncommon in California, Pacific Coast tick fever (PCTF) was recently identified in 2019 in a resident of Alameda County. The patient developed an eschar (dark scab) below a verified tick-bite, which subsequently tested positive for *Rickettsia philipii*, the causative agent of PCTF. Prior to 2019, there had been no PCTF cases reported to CDPH since 2014. The first PCTF infection in California was identified in 2008, with 15 confirmed cases from six counties reported over the next six years. The CDPH continues to monitor cases of Lyme and other tick-borne diseases. More information on vector-borne diseases in California can be found at http://cdph.ca.gov.

Regional Reports



EUROPEAN SOVE

Alexandra Chaskopoulou
Regional Director

Dear Colleagues and friends,

Florida, Greece, hurricanes & medicanes…
It is early July; I am flying to Thessaloniki carrying mosquito samples collected from south Greece and as I am skimming through the airline magazine my eyes fall on a very interesting title: "Greece is the Florida of Europe". Having lived and worked in vector control research in both areas I thought to myself what an appropriate comparison and I rushed to read the article only to quickly realize that I had a completely different point of view from the writer… She was mostly (and correctly) referring to the millions of tourists visiting both places every year to experience the warm weather, the sunny, idyllic beaches, and fancy resorts, among many other tourist attractions that are abundantly available. Whereas I was thinking of mosquitoes, natural wetlands, heavy summer rains and hurricanes…or should I say medicanes? Although not a technical weather term, medicane is used to describe hurricanes forming in the Mediterranean. It was only a year ago, last September, when Zorba, a tropical-like cyclone - was passing through Peloponnese, South Greece, causing severe damage, heavy flooding and prolonged power cuts. It is early September of this year, and as I am finalizing this newsletter article I am reading updates about Dorian, a category 5 storm, currently approaching the Florida peninsula…and I am having a déjà vu… Indeed, Greece has become the Florida of Europe and this does not apply only to the high tourist potential of these regions.

Hurricanes in Florida are expected… but who can possibly imagine that during their so highly anticipated summer vacation in the Greek Aegean they might wake up in a destroyed seaside, with no electricity, not being able to find their car because it drifted down the road with the strong water current? And though it is unlikely it became the reality for many tourists visiting North Greece in early July of this year, when an unusually destructive storm hit the coastal area of Chalkidiki – one of the most popular tourist destinations – causing catastrophic events resulting even in human casualties. These extreme weather phenomena are gradually becoming more frequent, and Greek temperate summers seem to be changing from dry and hot to rainy and humid starting to resemble the subtropical summers of Florida. The effect of these changing weather patterns on vector abundance and distribution is already visible continuously increasing the need for vector control interventions across the country and the establishment of new vector control programs even to the most southern edge (the driest region of the country). A long-term prediction of how these changing weather patterns may affect overall vector population dynamics and vector-borne diseases at a larger scale is an extremely challenging and complex topic concerning many scientists worldwide; however, one thing is clear, that what ever changes the future will bring, we need to be ready to mitigate and adapt.

Updates on West Nile virus transmission season in Europe

Since the beginning of the 2019 transmission season and as of August 29, 2019, EU Member States and EU neighboring countries reported 184 human West Nile virus infections. Greece is the country mostly affected with 126 human cases, followed by Romania (19), Cyprus (11), Hungary (7), Italy (3), Bulgaria (2), Austria (1) and France (1). Fourteen cases have been reported by Serbia (7) and Turkey (7). To date, 17 deaths due to West Nile virus infection have been reported by Greece (13), Romania (2), Cyprus (1) and Serbia (1). Vector surveillance, control, and public education activities have been reinforced in response to the human cases. (source European CDC).

……***European report*** *cont'd on p. 5*

Regional Reports

European Report *cont'd from p. 4.*

Upcoming Conferences/training workshops

The Gnatwork is announcing their 2nd international workshop, which will be held in Belo Horizonte, Brazil (November 4-8, 2019) in collaboration with the Universidad Federal De Minas Gerais (UFMG). Following a conference day of talks, with lectures from experts on vector ecology and epidemiology, there will be a four-day training course to teach practical laboratory and field skills across the vector groups (black flies, sand flies, biting midges). There are 30 travel bursaries available for early-career researchers based in South American countries receiving Official Development Assistance (ODA) to attend, which can be applied for at https://www.gnatwork.ac.uk/brazil-19. The first International Gnatwork workshop held in Bangladesh in 2018, was very successful (See photo of participants on p. 7) (courtesy of Emma Howson on behalf of Gnatwork).

The 10th International Conference of Urban Pests (ICUP) will be held in Barcelona (June 29 – July 1, 2020). This conference brings together professionals from all over the world with an interest in the management of urban pests including but not limited to mosquitoes, bedbugs, crawling insects, rodents and birds. The Chair of the Organizing Committee is Ruben Bueno who foresees that urban arthropod vector control (mosquitoes, sand flies, ticks) will have a key role in the program. More details can be found at: www.icup2020.com (source Ruben Bueno on behalf of ICUP Organizing Committee).

The 10th Tick and Tick-borne Pathogen Conference will be held at Puflene Resort in Murighiol, Danube Delta, Romania (August 24-28, 2020) and is organized by the Department of Parasitology and Parasitic Diseases, University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca, Romania in collaboration with the Danube Delta Research Institute in Tulcea. The scientific topics cover taxonomy and evolution, genetics and genomics, ecology and epidemiology, spatial modelling, diagnosis and treatment, immunity and vaccines, infection and pathogenesis. More details can be found at: http://www.zooparaz.net/ttp10/ (source Andrei Mihalca on behalf of TTP10- Organizing Committee).

Funding opportunities with Gnatwork

There have been three independent funding calls over the course of the project, with five projects funded to date with a total funding budget of £600,000 GBP. The project's final pump-prime funding call is now open for applications in the following three areas: i) Detecting pathogens in vector species, ii) Testing a novel trap design against standard surveillance techniques, and (iii) Testing a trap design against explicit estimates of biting rate. The deadline for applications is September 13, 2019.

Anyone with an interest in either blackfly, sand fly or biting midge biology is eligible to join the Gnatwork and membership is free for all at www.gnatwork.ac.uk/members/join-the-gnatwork. (source Emma Howson on behalf of Gnatwork).

Students' Page

Bethany McGregor

Student Representative

Good day from the students of SOVE,

I want to start by extending my heartfelt condolences and empathy to the people of the Bahamian islands struck by Hurricane Dorian earlier this month. As I write this, the reality and scope of the disaster are only just coming to light, but I fear the destruction is far greater than any of us know at this time. To all SOVE members who were impacted by this deadly storm or who had friends, family, or loved ones impacted, our hearts are with you. I hope you are able to find comfort, peace, and a new sense of normal as soon as possible.

It's hard to believe another conference is upon us already. The location selected for this year's conference is not only beautiful, it holds a special meaning for the field of vector ecology. Puerto Rico has been ground zero for local transmission of various vector-borne pathogens such as dengue virus, Zika virus, and chikungunya virus and is the home of the Dengue Branch of the Centers for Disease Control and Prevention. It is also notable that Puerto Rico is home to El Yunque National Forest, the only true tropical rainforest present in the United States. I hope the SOVE community endeavored to make full use of the educational, cultural, and ecological opportunities that this unique conference location presented.

At this year's meeting, we will be continuing our efforts towards the establishment of a student group run entirely by the students and for the students. I will be attending the board meeting on Sunday, September 22 to act as the first student representative with full voting rights. I am hopeful that at this year's board meeting we can finalize the board's vision for the student group and the responsibilities of the student board member. My intent is to begin the election process in the weeks following the conference with the goal of having an elected representative in place and acting by the end of the year. Being a part of the establishment, process for this student group has been an incredible honor, and I am confident that the firm foundation that is being built will provide incredible opportunities and an increased voice to SOVE student and post-doctoral members moving forward. I want to thank the SOVE board as well as each and every student and post-doctoral member for their support through this process.

I would like to take the rest of this student section to highlight one of our SOVE student members, the research she is conducting, and her future goals within the field. Carrie De Jesus is a Ph.D. student in the Wisely lab in the Department of Wildlife Ecology and Conservation at the University of Florida. Carrie is currently researching tick-borne pathogen distribution and prevalence in Florida. Florida has been a long-neglected state for tick-borne disease research. Multiple relevant tick vector species are present and tick-borne diseases such as ehrlichiosis are commonly reported in the state. As part of her dissertation she is screening ticks collected across the entire state for both bacterial and viral pathogens of relevant importance to human health. With the pathogen data she plans to identify areas of the highest tick-borne disease risk. In addition to her tick pathogen work Carrie is looking at the host relationships of ticks and reptiles in Florida. Florida has a rich diversity of native and invasive reptiles, but little is known about their ticks. …*Student Page cont'd on p. 7.*

Students' page *cont'd from p.6.*

Using the Florida Museum Herpetology Collection, she is examining tick-reptile relationships to determine if spill over or spill back of ticks of native and invasive reptiles maybe occurring. After she completes her PhD program, she plans to pursue a career as a medical entomologist for the Centers for Disease Control and Prevention or the US Navy. As a medical entomologist she would like to engage in public outreach about vector-borne disease and outbreak response management.

Hard working student members, such as Carrie, contribute valuable research that benefits the vector ecology community as a whole and we thank Carrie for her work and her contribution to this quarter's newsletter. Student members can expect to hear from me soon on student-related information and outcomes from the Puerto Rico Conference. If you are not on the SOVE student listserv (or are unsure of whether you are), please email me at bmcgreg1@gmail.com with your name, university or organization affiliation, degree/postdoc you are pursuing, and whether you are a paid SOVE member (it's never too late to join!).

-Bethany

Carrie De Jesus

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Participants of the First International Gnatwork workshop held in Bangladesh in 2018 (see p. 5)

For Your Calendar

The Inaugural meeting of the Latin American SOVE will be held November 20-24, 2019 in Manaus, Brazil.

The 85th Annual Meeting of the American Mosquito Control Association will be held March 16-20, 2020 in Portland, Oregon.

Resources

—Funding opportunity: Targeted Prevention for Tickborne Diseases (R01 Clinical Trial Not Allowed) (link is external)- RFA-AI-19-037 Deadline: August 7, 2019 Contact person: Maliha Ilias (maliha.ilias@nih.gov)

—Emerging Infectious Diseases Research Centers (U01 Clinical Trial Not Allowed) (link is external)- RFA-AI-19-028 Deadline: June 29, 2019 Contact person: Jean Patterson (jean.patterson@nih.gov)

—Immune Response to Arthropod Blood Feeding (R21 Clinical Trial not allowed) (link is external)- PAR-18-860 Deadlines: June 14, 2019, February 14, 2020, October 15, 2020 Contact person: Kentner Singleton (kentner.singleton@nih.gov)

Resources for investigators:

—*Vector Resources:*
https://www.beiresources.org/Catalog/VectorResources.aspx

—*Repository Resources:*
https://www.beiresources.org/Home.aspx

—*Resources for Researchers:*
https://www.niaid.nih.gov/research/resources

—*Vector Population Biology database:*

https://www.vectorbase.org/popbio
—Vector Bioinformatics database: https://www.vectorbase.org/

Adriana Costero, PhD
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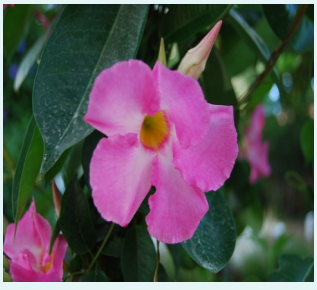

Job Announcements

California State University San Bernardino
Department of Health Science and Human Ecology

invites applications from a diverse group of qualified applicants for the following positions:

1. Tenure-track **Assistant Professor** in Environmental Health. Requires a Ph.D. in Environmental Health/Occupational Health or a related field. Candidates with Registered Environmental Health Specialist or Certified Industrial Hygienist credentials will be given preference. The successful candidate will be expected to demonstrate excellence in teaching, to develop an externally funded research program involving student participation, and to participate in service activities. Teaching responsibilities could include undergraduate and/or graduate courses in environmental health science, occupational health, industrial hygiene, core public health, as well as courses in health and human ecology. The successful candidate will be expected to advise undergraduate students.

Application review will begin after October 18, 2019 and the position will remain open until filled. If you are interested in this position, we invite you to apply at: https://www.schooljobs.com/careers/csusb/jobs/2531175. Salary is commensurate with experience.

2. Tenure-Track **Department Chair and Professor (open rank)** to begin August 2020 Requires a Ph.D. in Health Sciences with preference to applicants from Environmental Health Science, Health Service Administration, Nutrition and Food Sciences, and Public Health. . Candidates should be capable of appointment at the level of Professor The successful candidate should have demonstrated excellence in teaching, leadership, have a record of scholarship and experience obtaining external funding, and have a commitment to working with a diverse body of students, faculty, and staff. We particularly invite applications from candidates with administrative experience as a department chair and/or other supervisory/leadership experience. Given the need for high level of collaboration among programs in the Department of Health Science and Human Ecology, the ideal candidate should exhibit excellent communication skills, and be able to thrive in an interdisciplinary environment.

Application review will start after December 10, 2019 and the position will remain open until filled. For a detailed information on the position and application process, please visit:

https://www.schooljobs.com/careers/csusb/jobs/2535196 . Salary is commensurate with experience.

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Society for Vector Ecology

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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