SOCIETY FOR VECTOR ECOLOGY

SOVE Newsletter 47 (1)

March 2015

SOVE Newsletter

President's Message

Bülent Alten

Dear respected SOVE members,

It appears that the weather here in Europe is changing and heading towards the spring, which means the vectors will be looking for blood or simply annoyance. It has been unexpectedly snowy/rainy and cold weather with many days below freezing. In contrast, climatologists predict very hot, occasionally rainy and humid spring, which may be one of the worst summers in Europe. When I was pondering on the subject of President's message , as a Vector Ecologist, I decided that this is the right time to write a few paragraphs on the relationship between vectors and climate.

Even under conservative and optimistic scenarios, future climate change will likely increase ambient temperatures. For instance, at the end of this century, the incidence of very hot days per year in central Europe is projected to reach those currently experienced in southern Europe. While heavy summer precipitation is expected to increase in northeastern parts of Europe, it is likely to decrease in the south. In addition, changes in annual cold and warm extremes are projected for northeastern Europe. These climatic changes may support a range shift and further regional establishment of certain vector species, including some *Phlebotomus* species. For instance, as an ectothermic arthropod, like other sand fly species, *P. papatasi* is unable to regulate its body temperature. Hence, this species directly depends on the thermal conditions of its environment. Under laboratory conditions, changes in temperature and humidity affect the population dynamics of this species, which suggests that climate change is likely to extend the limits of its northern distribution. Regarding a northward shift, it is temperature constraints in the cold period and decreasing photoperiod that are of main interest, as these factors determine diapause of eggs and thus the survival of sand fly species. The 10° C (50 ^{o}F) coldest-month isotherm coincides with the separation between continuously breeding populations and those that must undergo a period of dormancy to survive cold periods in winter. Nawrocki and Hawley (1987) state that the −5° C (-40 oF) coldest-month isotherm describes the maximum northward expansion of some vector species, including sand flies in continental Asia and presumably, also in North America. However, it is not only the limitation by low temperatures that has to be considered; warm temperatures also play an important role for many vector species. Sufficient precipitation or perhaps more generally a suitable local moisture regime is an additional prerequisite for the occurrence of sand fly species. Moisture directly controls the availability of breeding sites and relative humidity is an important factor for egg survival.

Different studies present evidence of an increasing risk of establishment by sand fly species especially for the Atlantic Coast and inland parts of Europe. In addition to the detection in already potentially appropriate areas, the findings show additional areas of potential future establishment of the species. It is possible that sand flies have already colonized larger areas than previously reported. Large areas of northwestern and central Europe that are inappropriate for the species today are projected to change during the 21st century towards a climate that can further support the survival of a number of sand fly species. Once they are established, they are then very difficult to control. Although it appears …

continued on p. 2

In this issue

Regional Report

NORTHWESTERN USA

David G. Sullivan, regional director

Clackamas County Vector Control District is searching for a Manager. Union County Vector Control is searching for a Manager. Due to weather related issues there is not much more to report.

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The Northwest weather pattern this year (2015) has been wet in January but extremely cold (rain/snow depending on location) and February has been warmer than normal until this last week were the temperature declined to near normal levels.. Washington and Oregon were hit by major storms from the Pacific Ocean which has brought major snow to the mountains and rain to the valleys. Moisture levels in most of the Northwest are close to normal even though the last few weeks there has been little rain or snow.

Human cases of West Nile Virus in 2014 were down 37% in 2014 from 2013. The final tally is no different than the December report as shown below...

West Nile Virus (WNV) in 2013 compared to 2014.

Year	Total	CO	ID	MT	OR	UT	WA	WY
2013	445	316	40	38	2	7	1	41
2014	163	113	18	5	8	2	12	5

The Northwest Mosquito & Vector Control Association (NWMVCA) is holding its Spring Training Workshop in West Richland, Washington on April 3 and 4. Information is available on the NWMVCA website under events.

The Northwest Region should be well represented at the AMCA Washington Day event. Oregon, Washington, Idaho, Montana, Utah, and Colorado will have one or more representatives.

Montana: Winter left Montana early in February and became almost tropical; however it appears that winter has returned with low temperatures and renewed snow/rain.

Oregon: Michael Morstad, Manager of the Klamath Falls Mosquito District retired in October and Lyndsey Pearce Assistant Manager is now Manager while the District searches.

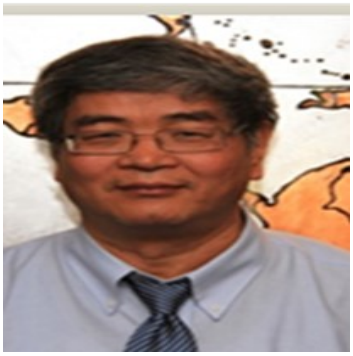
Cont'd from p. 1: ……that I am writing a thesis on sandflies but it is only one species that I am describing how it is being impacted by climate change. This scenario of impact of climate change can be extrapolated to a whole range of flora and fauna.

Presence of the vector is an important prerequisite for transmission however, it is not the only factor determining whether or not a pathogen can establish. Even if the vector is abundant, other factors may also result in a situation where introduction of the pathogen does not lead to large outbreaks. Such factors are often environmentally determined and include the replication rate of the pathogen, the vectorial capacity, host availability, or the infectious life span of either vectors or hosts. We, therefore, need a tool to predict whether or not vector-borne diseases such as West Nile virus, Crimean-congo hemorrhagic fever, leishmaniasis or malaria infections can establish after introduction in particular areas and under certain climatic and environmental conditions. Presently, a high number of imported vectors and an increase in autochthonous transmission of several viral diseases are reported in Europe, especially in southern Europe. These incidents have revealed major obstacles to effective vector and vector-borne disease surveillance in most European countries. These include the lack of updated distribution data, cost-effective surveillance, data on species abundance, and control strategies. The most important and urgent necessity among the community of entomologists working on vectors is the need to record the extremes of distribution of each vector species and obtain data on regional distribution along with increased sharing of data through European projects such as Vectornet. It is clear that extension of data sharing not only between European countries but also all over the world will be an important necessity in the near future. I am sure that SOVE being a very active association among the scientific community is one of the best venues to share and disseminate information.

Warm regards,

Bulent Alten

Regional Report



Southeastern USA
Rui-De Xue, regional director

This is my first report as the Southeast Regional Director for the SOVE. The Southeast Region includes Alabama, Florida, Georgia, North Carolina, South Carolina, Mississippi, Tennessee, and Virginia. There are 83 members in the region, of which 49 are from Florida, with rest scattered over Georgia (8), North Carolina (8), Virginia (7), Tennessee (5), Alabama (3), Mississippi (2), and South Carolina (1). If any member from this region has any information about member awards and grants, promotions, relocation, new equipment, methodology, programmatic issues, conferences, meetings, job opportunities, and anything that would be of interest to our members, please forward the information to me at xueamcd@gmail.com.

For vector-borne disease situation, In 2014, there were more imported, or travel associated cases of chikungunya and dengue fever in Florida, according to the Florida Department of Health. There were 75 cases of dengue with travel history and 6 cases acquired locally. Of the total 461 cases of chikungunya reported, 450 had a travel history and 11 locally acquired. A total of 15 human cases of WNV illness were reported in Florida in 2014.

Among other activities, he 12th arbovirus surveillance and mosquito control workshop held at the Anastacia Mosquito Control District (AMCD), St. Augustine, FL, March 24-26, 2015 was very successful. One hundred forty five attendees from seven states including 9 international scientists from 5 other countries participated in the workshop with about 60 presentations.

In member news, Dr. Gary Clark, Research Leader, USDA/Center for Medical Agricultural and Veterinary Entomology (CMAVE), Gainesville, Florida retired from the Federal Government (USDA and CDC) at the end of October 2014 after many years of service.

Mrs. Ali Fulcher, Biologist, AMCD, St. Augustine, Florida left the District for New Zealand to join her husband.

Dr. Rui-De Xue received the Florida Mosquito Control Association (FMCA) merit award and was elected as Vice President of the Florida Mosquito Control Association (FMCA) at its annual meeting in November., 2014.

Ms. Adriane Tambasco replaced Dr. Peter Jiang as the new Medical Entomologist at the Florida Department of Agricultural and Consumer Service, Tallahassee; Dr. Peter Jiang is now the new Entomologist/Director of the City of Gainesville Mosquito Control Program, Florida.

Dr. Walter J. Tabachnick, Director, Florida Medical Entomology Laboratory, University of Florida/IFAS retired by the end of 2014 after many years of service.

Dr. Donald Barnard, Research Entomologist from USDA/CMAVE received *Entomologist of the Year Award* from the Florida Entomology Society in August, 2014. Dr. Donald Shroyer, Medical Entomologist, Indian River Mosquito Control District received the FMCA's *Joseph Y. Porter Distinguished Achievement Award* during the FMCA annual meeting in November, 2014.

Dr. Gary Clark and Dr. Dan Kline, along with a group of Rutgers University and NJ mosquito control workers received the Entomological Society of America PI-E team award for IPM for "Area-wide *Aedes albopictus* Project" in November, 2014.

Dr. Ken Linthicum, Center Director, USDA/CMAVE, has been elected as the 2015-16 President of the American Mosquito Control Association (AMCA).

Mr. Wayne Gale, Director of Lee County Mosquito Control District has been elected as Vice President of the AMCA.

E-SOVE Conference
Thessaloniki, Greece
October 13-17, 2014
by

Eva Veronesi
European Regional Director

The European Society for Vector Ecology (E-SOVE) has run its 19th Conference in Thessaloniki, Greece (October 13-17). We had a fantastic successful meeting with a great international attendance for a total 118 participants from 32 nationalities (12 from Europe, 11 from the USA, 7 from African countries and 2 from Asia). Our enthusiastic and professional local organizing committee from Ecodevelopment (Thessaloniki, Greece) made this event really flowing, energetic and productive, which created a fruitful informal environment that contributed to expand our ESOVE family, welcoming a large number of new members attending the conference.

Among the 10 symposia, 70 oral presentations and 73 posters were presented. The theme of the conference "When epidemic becomes endemic: a global challenge towards control" brought to the attention the urge to pursue a better understanding of pathogen-vector interaction and their control in order to prevent new disease incursion. Indeed, highly sensitive diagnostic tools, the impact of climate change on vector distribution and pathogen transmission, emergence of novel mutant pathogens and their advantages to vector competence, together with the need for more ecological data on vectors were the take home message of the conference.

Seven keynote speakers open the symposia with an update on 1) New advanced integrated vector control for malaria in Africa (Bart Knols), 2) An overview on mosquito-borne infections and their vectors in northern Europe (Jan Lundström) ,3) Analysis of the epidemiology for Bluetongue virus and what we have learned from its spreading in Europe in the last decades (Eva Veronesi), 4) Tick-transmitted diseases in Europe (Isabel Carvalho), and 5) An overview of new human viral vector-borne disease record in Greece (Anna Papa). Marieta Braks opened the conference with a remarkable memorial on Ernst-Jan Scholte and his "short" but very successful career.

To Ernst-Jan Scholte was also dedicated the "Innovative Scientific Award" that was given to Chantel de Beer from the Onderstepoort Veterinary Institute of Pretoria (South Africa) for the best oral presentation and to Kristyna Hlavackova from University of Prague (Czech Rep.) for the best poster (sponsored by Oxfordscienceediting). Moreover, the E-SOVE awarded Dr Major Dhillon for his dedication and lifetime outstanding service to the European SOVE, *see ESOVE pictures on p. 5.*

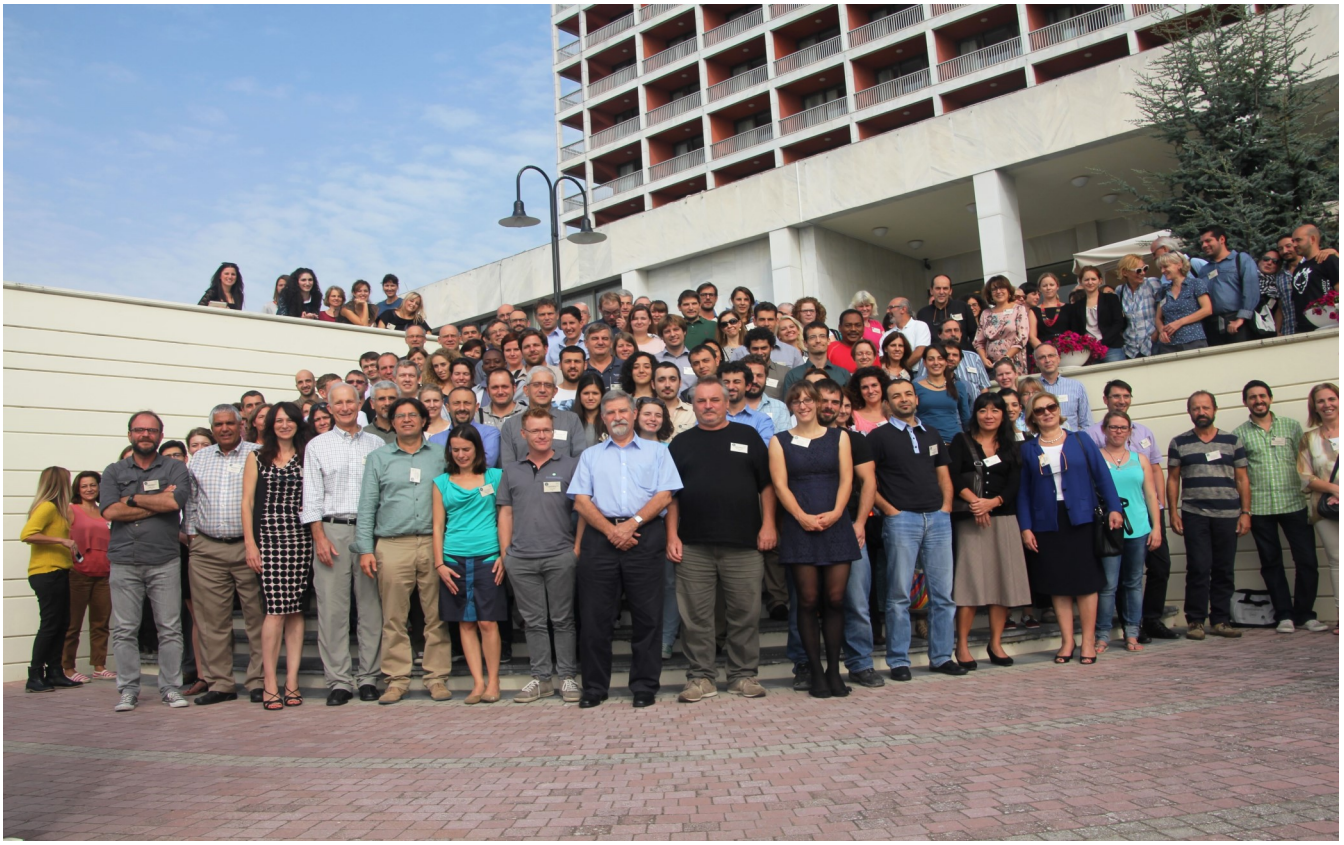
It was quite remarkable to see such high and active participation at our animated and stimulating round table during the conference, which raised many questions on vector control and how it is regulated or advised in European countries. It became quite obvious that there is a need for better communication between European institutions and experts in this field in order to control new incursion of vector-borne diseases or exotic vector species. Full detailed guidelines on invasive or native vector distribution, ecology, surveillance and monitoring are given by the European Center forDisease Control (http://www.ecdc.europa.eu), while proper European guidelines for mosquitoes control concerning application techniques and its legislation seems to be still lacking in Europe, together with lack of communication among entomologists on where to find this information.

Oral presentations on vector control were allocated within a special four-hour symposium run by European Mosquito Control Association (EMCA) within the E-SOVE conference.

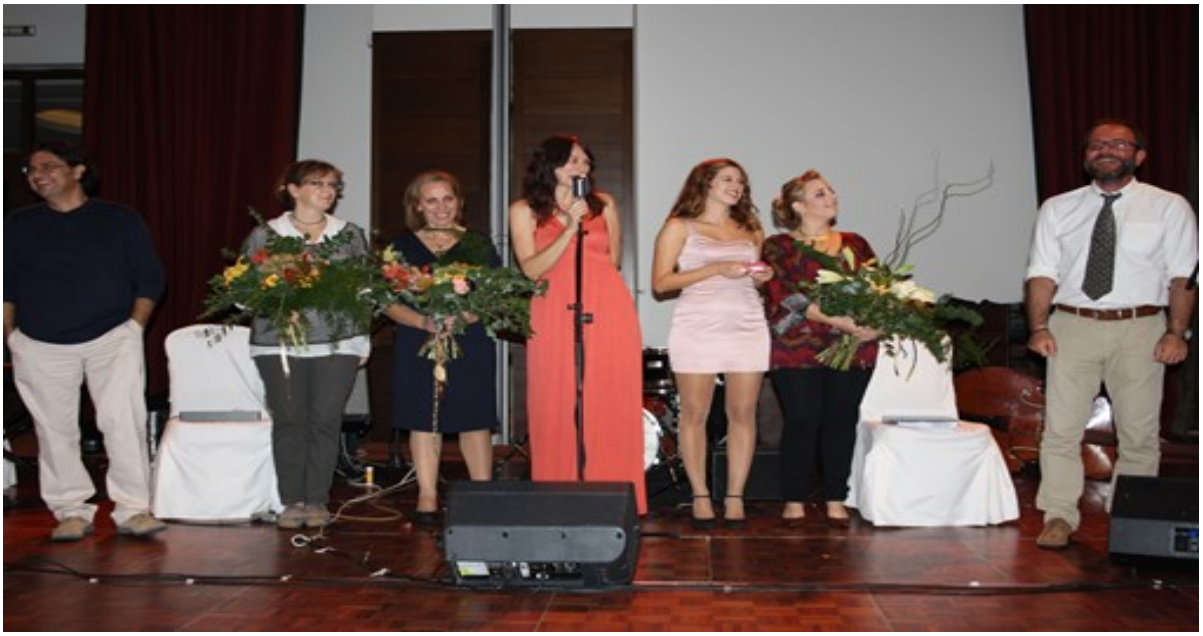
For the first time, a course on vector control, ecology and morphology was organized during a European conference. The 2-day course was run in the Thessaloniki area in collaboration between E-SOVE and EMCA, commencing the week end before the conference (October 11-12). The course had an amazing success with a very large attendance: 65 participants, 40 of which attended the mosquito group, 9 in the *Culicoides*, 9 for the ticks and 7 in the sand flies group. Participants had a very diverse background ranging from students, postdocs, senior scientists to applicators. The course was run with the extraordinary help of the Aristotle University in Thessaloniki, the Veterinary Research Institute, and the American Farm School (USDA) which took care of infrastructures and logistic support. It was really fantastic to feel such good energy flowing during the two days which not only helped to establish an important networking among colleagues, but it also brought together 15 trainers coming from all over Europe. The environment was extremely friendly and very productive, thanks once again to all the people involved and for the great contributions! Several suggestions were given regarding the next location for the 20th E-SOVE conference in 2016. Among the candidate countries we had were Montenegro, Romania, Portugal and Bulgaria. The selected host country will be announced later. I would like to remind about the forthcoming EMCA meeting in Valencia (Spain), February 23-27, 2015 (http://www.emca2015.com/)

As President of the European SOVE I have to say that despite the really intense nine months of work in preparation for the conference, at the end this "baby" was well delivered and as all children do, it gave me such a great satisfaction that paid back all the past lack of sleep and stress on getting things done exactly as you want. I think I had become quite addicted to this stress that I already miss it! ==========

Pictures from 2014 Conference of E-SOVE in Thessaloniki, Greece

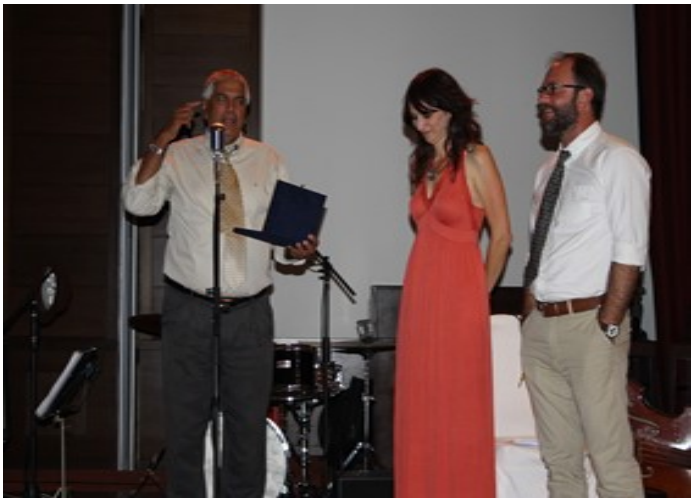


Group Photo—Conference Attendees



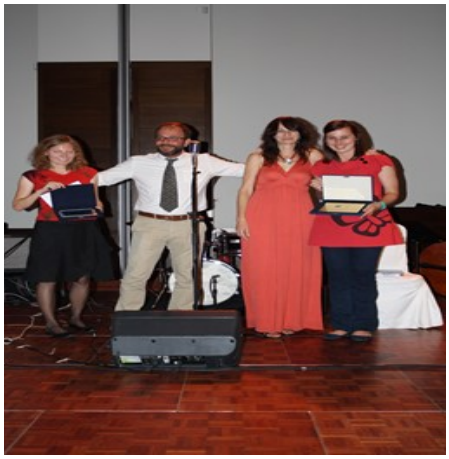
Gala Dinner Ecodevelopment—Eva Veronesi , Bulen Alten, and Company

Award Ceremony

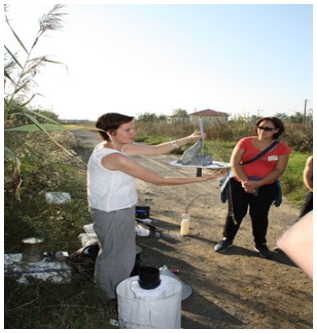


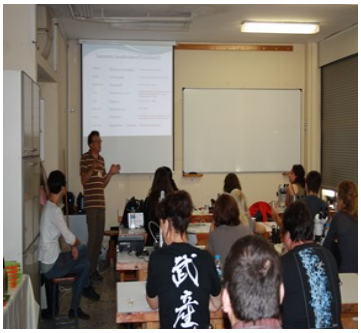
Major Dhillon receiving Lifetime Service Award

Kristyna Hlavackova—best poster award



Chantel de Beer—best oral presentation award



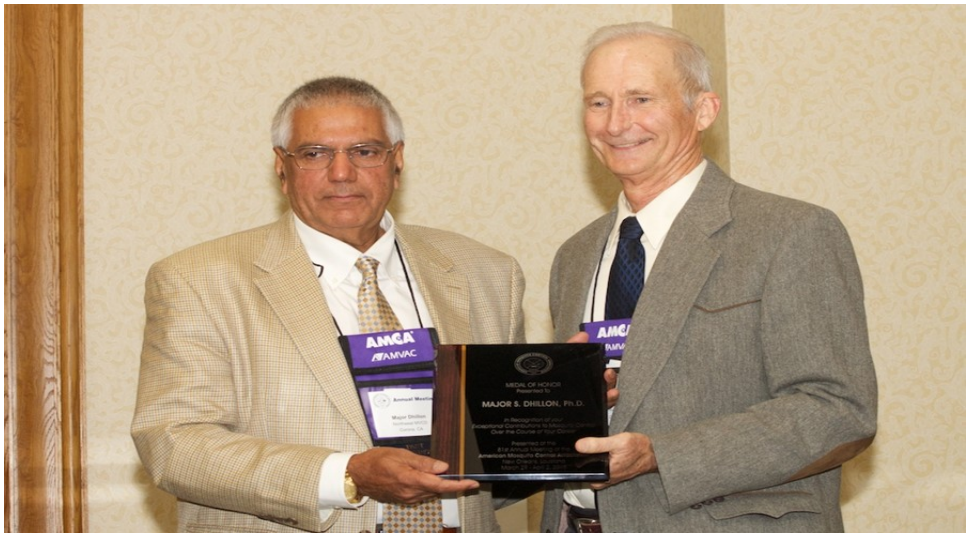


Vector Control training course—-from field to lab

Congrats to Major Dhillon

(2008-2009 President of AMCA)

Surprised, speechless and tight-lipped as he was when the AMCA President, S. Fred Mulligan called upon Major Dhillon to proceed to the podium to receive the American Mosquito Control Association Medal of Honor, the highest award given to an individual on the basis of exceptional contributions to mosquito control or related fields. One can measure the extent of indifference and astonishment on Major's face as President Mulligan tried hard to show a big smile even though he himself was running 101.5 degree temperature due to an illness he contracted on the train from Western US (California)…….. .



After a brief moment of complaints that nobody informed him about the award before hand even the Association Office pointing at executive director, Sarah Gazi, Major quickly settled down with his Majorly smile and started thanking the Association and last but not least his better half, Pash. *Congratulations*! Major Dhillon, you certainly deserve the award for all your hard work.

2015 SOVE Annual Conference

Embassy Suites, Albuquerque, New Mexico

September 27-October 1, 2015

Room rates will be $119/night and will include a cooked to order breakfast every morning.

OBITUARY

Harry Davis Pratt, Sr.

April 15, 1915 - March 31, 2014

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Following deteriorating health for several months, Harry Davis Pratt, Sr. died on March 31, 2014 from heart and kidney complications at a nursing home in Fountain Inn, South Carolina. He was born in North Adams, Massachusetts on April 15, 1915, the son of Harry Edward Pratt and Ethel Davis Pratt. He attended Massachusetts State College and earned his B.S. in 1936 and his M.S. in 1938. He attended the University of Minnesota where he received his Ph.D. in 1941. He worked the summers of 1940 and 1941 on the Upper Mississippi Malaria Survey from St. Louis, Missouri to St Paul, Minnesota. In November 1941, he joined the U. S. Public Health Service (USPHS) as an associate entomologist and was stationed in Florida until February 1942.

Harry began work in Puerto Rico in February 1942. He continued working there until July 1946 as the chief entomologist for the Malaria Control in War Areas Program controlling malaria mosquitoes around Army and Navy bases in Puerto Rico, Vieques, and Jamaica. Working with entomologists in the United States, he added three mosquitoes to the lists of both Puerto Rico and the United States (*Culex opisthopus*, *Cx. iolambdis*, and *Mansonia indubitans*). He reported that the malaria mosquito, *Anopheles albimanus,* was easily attracted to New Jersey light traps and that these collections varied on a monthly basis related to the bright and dark phases of the moon. He supervised spraying with DDT of houses, and showed that this method of control resulted both lowering counts of mosquitoes in houses and number of new cases of human malaria in the community with sprayed houses. This experiment was run before the much larger DDT residual spraying program in the United States from 1945-1952.

In July 1946, Harry transferred to the USPHS Communicable Disease Center (later redesignated the Centers for Disease Control) in Atlanta, Georgia, where he served as the chief entomologist in the Laboratory Branch from 1946 to 1953, as Chief of the Insect and Rodent Control Training Division from 1953 to 1964, as chief training entomologist on the *Aedes aegypti* control program from 1964 to 1968, and as the chief training officer of the Urban Rat Control Program from 1968 to 1972. These activities required training classes at the Communicable Disease Center, and in 40 of the 50 states in cooperation with state and local health departments, universities, and mosquito control associations. In 1967, he was elected the 1967- 68 president of the American Mosquito Control Association (AMCA). In 1983, he was awarded the Medal of Honor, the highest award the AMCA gives to a member on the basis of exceptional contributions to mosquito control or related fields.

In Atlanta, Harry supervised the production of motion pictures and filmstrips dealing with vector-borne disease control. He wrote training guides and made pictorial keys illustrated by C. J. Stojanovich, with many included in the Communicable Disease Center home study course, "Vector-Borne Disease Control," and that were incorporated into text books and magazines.

In 1972, Harry retired as a Captain from the USPHS. In recognition for his development of vector-borne disease teaching literature and aids, including pictorial keys to simplify the identification of insects, he was awarded the Gorgas Medal by the Association of Military Surgeons. Harry spent much of his retirement in Atlanta before moving to Simpsonville, South Carolina in 2003. From 1974 to 1994, he worked part-time teaching pest control operators in classes at Stephenson Chemical Company in College Park, Georgia. For these activities, he was made an honorary member of the National Pest Control Association, Georgia Pest Control Association, and Pi Chi Omega.

He described one new genus and 32 new species of ichneumon flies, and with fellow entomologists described 4 new species of sucking lice, 2 new species of biting lice, 1 new species of mite, 4 new species of *Culicoides*, and 1 new species of flea. Fellow taxonomists named 6 species of Diptera for him.

In 1944, Harry married Caroline G. Kreiss with whom he had three children: Harry D. Pratt Jr., Katherine Maria Pratt (Garrison), and George Kreiss Pratt before she drowned in 1951. He married Dora Belle Ford in 1952, who died in 1998. Harry is survived by two sons, Harry Davis Pratt, Jr. and George Kreiss Pratt; six grandchildren; and three great grandchildren. He was predeceased by a daughter, Katherine Pratt Garrison and a brother, Samuel Maxon Pratt.

George K. Pratt
gkpratt@comcast.net

For Your Calendar

The Asian Society of Vector Ecology and Mosquito Control (ASVEMC) (www.asiansvemc.org) will hold their meeting in Guangzhou, China, May 24-25, 2015. The new officers will be installed by the SOVE President-Elect Dan Kline before the 4th International Forum for Surveillance and Control of Mosquitoes and Mosquito-borne Diseases. For more information, visit the meeting website: www.mosquitoforum.net, or contact Rudy Xue at xueamcd@gmail.com, or Tong-Yan Zhao at tongyanzhao@126.com.

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, July 11-14, 2015. Visit AAVP.org for deadlines and other information, or e-mail NHinkle@uga.edu.

The Society for Vector Ecology annual meeting will be held in Albuquerque, NM, September 27 -October 1, 2015.

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

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Jobs

No job listing received this quarter.

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.

Two papers below pertaining to the use of human subjects in vector research:

Introduction to: Considerations for the Use of Human Participants in Vector Biology Research: A Tool for Investigators and Regulators by Achee et al., by Stephen Higgs. Vector-Borne and Zoonotic Diseases, Vol. 15, No. 2, February 2015: 87-88.

Considerations for the Use of Human Participants in Vector Biology Research: A Tool for Investigators and Regulators by Nicole L. Achee, Laura Youngblood, Michael J. Bangs, James V. Lavery, and Stephanie James. Vector-Borne and Zoonotic Diseases, Vol. 15, No. 2, February 2015: 89-102.

Adriana Costero, PhD
Email: acostero@niaid.nih.gov

On the Horizon ……

World Mosquito Control Association (WMCA), established through the collaborative efforts of many individuals, dubbed founding fathers, 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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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 environmental 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