MediLabSecure (WP3) – Newsletter n°27 – May 2021

Dear network members,

We will finally meet again, although still virtually hopefully for the last time, during the **first Online Network meeting of the MediLabSecure project** that will be held on **June 15 and 16th, 2021.**

It will be the opportunity to network with all the experts from various components and to share experiences at country level on **"The impact on COVID-19 on preparedness and surveillance of vector-borne diseases"**. As usually with MediLabSecure activities the «One Health Approach» will be promoted throughout the meeting. If not already done, could you please kindly confirm your interest and availability by filling in the registration form in this link?

NEWS FROM MLS.ENTOMO

> The third edition of the Medical Entomology MOOC is now available here. The course will be broadcasted in English with French subtitles from April 3 until July 1, 2021.

NEWS FROM THE REST OF THE 'MED ENTOMOL' WORLD

> Submission of abstracts for oral communications is now open for the 3rd AIM-COST Annual Conference (2-3 September 2021). There are room for up to 12 talks (10 minute presentation + 5 minutes discussion) organized in two oral communication sessions. Whilst presentations on any research area focusing on *Aedes* invasive mosquitoes are welcome, preference will be given to: 1) Surveillance for precision AIM control; 2) Novel AIM control approaches and 3) Assessment for AIM control activities. See the AIM-COST website.

> Registration for **the workshop "Targeting the Parasite Within the Vector: Exploring Novel Approaches to Prevent Transmission of Vector-Borne Diseases"** organized by **the National Institute of Allergy and Infectious Diseases (NIAID) of the National Institutes of Health (NIH)** are open. It will take place virtually on **July 20-21, 2021**.
The purpose of this workshop is to explore approaches that target the pathogen within the vector host as tools to prevent transmission to humans. During **Day 1** speakers will discuss the state of the science for four parasite/vector systems, current approaches that target the parasite within the vector, and genomic and computational tools that may help expedite research in these areas. On **Day 2**, breakout teams (formed of speakers and participants) will identify opportunities, gaps, challenges and needs for

each disease system and approach that are limiting progress. Here is the registration link that will close on July 14, 2021.

>The European Mosquito Control Association (EMCA) and Wageningen Academic Publishers are now collaborating to publish the 'Journal of the European Mosquito Control Association'
According to Francis Schaffner, President of EMCA and editor-in-chief of JEMCA "The newly established cooperation with Wageningen Academic Publishers is a very exciting development for the JEMCA." This change will allow the JEMCA to further increase the number of internationally renowned scientists from across vector groups and disciplines on its new editorial board as well as its visibility.

ENJOY READING

First Detection of the West Nile Virus Koutango Lineage in Sandflies in Niger
Gamou Fall, Diawo Diallo, Hadiza Soumaila, El Hadji Ndiaye, Adamou Lagare, Bacary Djilocalisse Sadio, Marie Henriette Dior Ndione, Michael Wiley, Moussa Dia, Mamadou Diop, Arame Ba, Fati Sidikou, Bienvenu Baruani Ngoy, Oumar Faye, Jean Testa, Cheikh Loucoubar, Amadou Alpha Sall, Mawlouth Diallo and Ousmane Faye

The Koutango lineage of WNV (WN-KOUTV) is one of the already known 8 different lineages of the West Nile virus (WNV). This virus shows evidence of infection in humans and very high virulence in mice causing 100% mortality of mice. So far, it was mostly associated with ticks and rodents in the wild and so far is exclusively present in Africa. However, this study shows that, for the first time, the WN-KOUTV strain have been detected in a sandfly pool. Thus, further studies should be done to assess the possibility of multiple vectors, potentially including birds as reservoirs of WNV, to spread the virus beyond Africa.

Rift Valley Fever and West Nile virus vectors in Morocco: Current situation and future anticipated scenarios
Abdelkrim Outammassine, Said Zouhair, Souad Loqman

Rift Valley Fever (RVF) and West Nile virus (WNV) are two important emerging arboviruses transmitted by *Aedes* and *Culex* mosquitoes, typically *Ae. caspius, Ae. detritus and Cx. pipiens* in temperate regions. Following several outbreaks of WNV inside Morocco and RVF in the neighboring Mauritania, this study gathered a data set summarizing occurrences of *Ae. caspius, Ae. detritus* and *Cx. pipiens* in Morocco, and generated model prediction for their potential distribution under both current and future (2050) climate conditions, as a proxy to identify regions at-risk of RVF and WNV probable expansion. As a result, all the north-western regions (where the population is most concentrated), specifically along the Atlantic coastline, are highly suitable for *Ae. caspius, Ae. detritus* and *Cx. pipiens*, under present-day conditions. Besides, all of the studied species are prospected to gain new areas that are currently not suitable for them, even under the most optimist scenario, thus placing additional human populations at risk.

First Data on Human Lyme Borreliosis in Kosovo: Prospective Evaluation of the Disease from a Tick Bite Perspective
Albina Ponosheci-Biçaku, Salih Ahmeti, Vladimir Trkulja, Ardian Biçaku, and Goran Tešović

This single-center prospective observational study enrolled consecutive adult participants (≥18 years of age) with tick bite (embedded tick in the skin), who were examined at the Clinic of Infectious Diseases, Pristina, between January 2015 and August 2018. Among the 380 subjects who were included in the study, only 15 clinically diagnosed EM (in seronegative patients) were serologically confirmed

with seroconversion (2 months later), representing 3.9% of all subjects included in the study. There were three cases with clinical manifestation between the second and third visit: EM recidivans, multiple erythema, or several nonspecific systemic symptoms. Thus, despite this law figure, this study confirms a risk of Lyme Borreliosis human contamination in the Pristina region in Kosovo.

Usutu Virus Epizootic in Belgium in 2017 and 2018: Evidence of Virus Endemization and Ongoing Introduction Events

Emna Benzarti, Michaël Sarlet, Mathieu Franssen, Daniel Cadar, Jonas Schmidt-Chanasit, Jose Felipe Rivas, Annick Linden, Daniel Desmecht, Mutien Garigliany

Wildlife surveillance allowed the monitoring of the zoonotic mosquito-borne Usutu virus (USUV) in birds and bats (*Pipistrellus pipistrellus*) in southern Belgium in 2017 and 2018. The USUV-RNA virus was detected in 69 birds (of 253) from 15 species, among which 7 species had not previously been reported to be susceptible to the infection. These results provide evidence of USUV endemization in southern Belgium in local birds and bats, extension of the host range of the virus and ongoing virus introduction from abroad, likely by migratory birds. The need for vigilance in the forthcoming years toward new virus-associated outbreaks in birds and possible human infections in Belgium is thus increased.

Surveillance of mosquitoes (Diptera, Culicidae) in Kyiv, Ukraine between 2013 and 2017

Tata Romanenko, Natalyia Hunchenko, Tetiana Kharkhun, Lyudmila Kardupel, Larysa Honcharenko, and Stephen Higgs

In this study reports data from a State-supported mosquito surveillance program in Kyiv that identified the presence of 29 different species: 24 Culicines and 5 Anopheline species around Ukraine's capital city. Culicine mosquitoes included 17 in the genus *Aedes*, 3 *Culex*, 3 *Culiseta*, and 1 *Mansonia* species. The relative abundance of each genera was consistent in years 2014, 2015, and 2016; namely *Aedes>Culex>Anopheles* but a decline in the number of mosquitoes collected was observed and could be explained by increased urbanization and more effective control.

Les zoonoses - Ces maladies qui nous lient aux animaux

Gwenaël Vourc'h, François Moutou, Serge Morand, Elsa Jourdain

This book (in French) provides an overview of the diseases that can be transmitted between humans and animals, known as zoonoses. After defining what these diseases are, how they are transmitted and presenting the major zoonoses, the authors explain the different ways of protecting ourselves from them and the reasons for their emergence and evolution. This book invites us to better understand the animal and microbial world that surrounds us. It also enables us to understand these diseases in order to better protect ourselves and, beyond that, to reconsider the relations we have with animals and the whole living world in order to reintegrate it fully.
If you have any suggestions or information you wish to share, please let us know and send an email to the discussion listmls.entomo-all@listes.ird.fr

Best regards,

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