SECOND CONFERENCE ON
NEGLECTED VECTORS AND VECTOR-BORNE DISEASES
(**EURNEGVEC**)
WITH MANAGEMENT COMMITTEE AND WORKING GROUP
MEETINGS OF THE
COST ACTION **TD1303**

IZMIR-TURKEY, MARCH 31 - APRIL 2, 2015
WWW.EURNEGVEC.ORG

ABSTRACT BOOK

WG1: The "One Health" concept in the ecology of vector-borne diseases

OP-G06. MULTIPLE USE OF ENTOMOLOGICAL SURVEILLANCE OF VECTOR-BORNE DISEASES

Ignjatović Ćupina A.[1], Petrić D.[1], Petrović T.[2], Hrnjaković Cvjetković I.[3], Milošević V.[3], Dondur D.[1], Vaselek S.[1], Kavran M.[1], Pudar D.[1], Marinković D.[1], Zgomba M.[1]

[1]Faculty of Agriculture, University of Novi Sad, Novi Sad, Serbia
[2]Scientific Veterinary Institute „Novi Sad", Novi Sad, Serbia
[3]Centre for virology, Institute of Public Health of Vojvodina, Novi Sad, Serbia
Correspondence: cupinas@polj.uns.ac.rs

Due to low level of public awareness, poor training skills of medical personnel and limited financial resources, the routine medical diagnose praxis for West Nile virus (WNV) hasn't been applied in Serbia until the outbreak in 2012. The interests of public authorities to support the large-scale vector surveillance were also limited.
Nevertheless, taking in account the existing risks of WNV circulation, the first steps towards the medical and entomological surveillance were undertaken in 2005. Despite the number of suspected human cases, virus was never detected in humans, animals or vector. Random mosquito sampling in predefined risk areas revealed no WNV presence. In 2009, in order to increase probability of WNV detection in mosquito vector (that will raise awareness of public and politician), reverse (backward) system was set based on serological testing of suspected earlier human cases (IgG positive persons), followed by mosquito samplings conducted in the affected residential areas ("hotspots") where cases were grouped. Restricting the mosquito sampling in 2010 to 10 "hotspots", 3 sampling nights (September) and putative vector (*Culex pipiens pipiens*), 3 out of 29 tested mosquito pools were found positive to WNV. From 2011 to 2014, the surveillance was widened and sampling spots defined according to following priority: **1**) old "hotspots" included first; **2**) new grouping of serological human/horse cases (new "hotspots" added); **3**) places of interest for veterinary surveillance supplemented if possible. Interestingly, some "hotspots" provided positive pools of *Culex pipiens pipiens* in several consecutive years.
Consequently, approach to entomological surveillance has been shifted from "backward" to "forward" in order to facilitate predictive assessments to: **a**) determine start/end of transmission period; **b**) impact of weather and environmental changes on transmission; **c**) support the decision making process; **d**) evaluate vector control efficacy.
A protocol to ensure standardisation of the activities, allowing comparisons between different teams involved in operational part of the surveillance is in preparation. Selection of appropriate sampling technique and microhabitat could allow simultaneous surveillance of other vectors/pathogens (i.e. Phlebotominae/*Leishmania* spp.; Phleboviruses, *Culicoides* spp. /Blue Tongue Virus, *Culex* spp. /*Dirofilaria* spp.) and evaluation of vector control efforts.

Funding: This study was supported by The Ministry of Education, Science and Technological Development of the Republic of Serbia (project grants TR31084 and III43007) and Provincial Secretariat for Science and TD, APV. The work was done under the frame of EurNegVec COST Action TD1303.