

Ss. CYRIL AND METHODIUS UNIVERSITY IN SKOPJE  
FACULTY OF VETERINARY MEDICINE - SKOPJE



Joint meeting  
**5<sup>th</sup> International Vet-Istanbul Group Congress**  
&  
**8<sup>th</sup> International Scientific Meeting**  
**Days of veterinary medicine - 2018**

# **BOOK OF ABSTRACTS**

23-27 September 2018  
Ohrid, R. of Macedonia

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OF THE JOINT MEETING  
5<sup>th</sup> INTERNATIONAL VET-ISTANBUL GROUP CONGRESS AND  
8<sup>th</sup> INTERNATIONAL SCIENTIFIC MEETING  
DAYS OF VETERINARY MEDICINE - 2018**

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12.10-12.20	<i>Anatomy Of The Renal Portal System In Long-Legged Buzzard (Buteo Rufinus)</i> <b>Sedef Selviler Sizer</b> , Murat Kabak, Burcu Onuk
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<b>Plenary lectures – Invited speakers</b>	
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## PL4

**EMERGING, ZOONOTIC AND VECTOR-BORNE FLAVIVIRUSES  
IN SERBIA IN THE LAST DECADE**

Tamaš Petrović

*Scientific Veterinary Institute "Novi Sad", Novi Sad, Serbia*

This work summarizes the data about the presence and prevalence of some zoonotic flaviviruses that circulates in Serbia in a last decade. After some historical data, the first data on presence of WNV in Serbia was obtained by testing of horses in northern part of the country (Vojvodina Province). The presence of WNV antibodies was detected by ELISA and plaque reduction neutralization test (PRNT) in 12% (46/349), in 28.6% (72/252), in 49.2% (64/130) and in 46.9% (45/96) blood sera of horses sampled during 2009/2010, 2011, 2012 and during 2013. The obvious rise of WNV seroprevalence in horses from one year to another, point on intensive WNV circulation in the tested area. Moreover, WNV circulation was also detected by ELISA, PRNT and by real-time RT-PCR in 5/92 (5.4%) WNV antibody positive blood sera and in 8/82 (9.8%) WNV RNA positive pooled tissues from 134 wild birds belonging to 46 species, collected during 2012 in Vojvodina Province of Serbia. In 2013, 28 (9.15%) out of 306 sampled mosquito pools tested positive for WNV RNA. These results confirmed the presence and intensive circulation of WNV in wild birds as natural hosts/reservoirs and mosquitoes as vectors. The recent seroprevalence study done by ELISA showed presence of WNV IgG antibody in 5.04% (17/337) of tested human sera collected during 2010. Human WNV clinical outbreaks were recorded each year, starting from 2012, when first human epidemic was recorded. As the response to this epidemiological situation, national WNV surveillance programme funded by Veterinary Directorate is established from 2014, and was successful in detection of the WNV presence in sentinel animals, wild birds and mosquitos before human outbreaks in each season. After several decades without published data, presence of Tick-borne encephalitis virus (TBEV) was demonstrated by real-time RT-PCR, conventional RT-PCR and sequencing in *Ixodes ricinus* ticks collected during 2014 and 2015 from Fruška Gora mountain and Belgrade surroundings (prevalence 2% (1/50) and 6.6% (30/450) at the two out of 17 tested localities). In addition, low prevalence of anti-TBEV antibodies were detected by ELISA test in human sera collected in the same period (0.37%; 1/267). One TBEV isolate from *I. ricinus* tick was sequenced and molecularly typed as Western European subtype. For USUV presence in Serbia, only recent data are available. During 2017, in total 109 pools of *Culex pipiens* mosquitoes were tested, 43 of which were sampled in July and 66 in August 2017 on the territory of Vojvodina Province, northern part of Serbia. The presence of USUV was detected by real-time RT-PCR and RT-PCR in 2.75% (3/109) of tested samples. Two of this isolates were sequenced and typed as USUV EU lineage 2

strains. The obtained results confirmed the first findings of this virus in mosquitoes and specific antibodies in human's blood sera in Serbia from 2015. To understand the true public health concern of different flaviviruses in Serbia, detailed epidemiological, clinical and virological research are required.

**Key words:** Flaviviruses, West Nile virus, Usutu virus, Tick-borne encephalitis virus, prevalence, virus detection, serology, Serbia

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