



BORDER HEALTH NEWSLETTER - JULY 2011

WELCOME!

Well we are well into August now and the weather seems to be heating up into spring. Aside from a few short cold snaps the winter continues to be particularly mild. That said, the cold snaps have been particularly disruptive to the Border Health Training with snow and ice disrupting travel so only one of the participants made it to the venue in Kaiapoi for the Monday morning start. The course kicked off eventually on Tuesday afternoon with most of the attendees being there just after lunch time but it was Wednesday before everyone made it to Blue Skies. But it was ust a cold snap and the sun showed face and temperatures in the mid-teens were experienced before the course was done.

INCURSIONS/INTERCEPTIONS

There were two interception events in July:

On the 22nd of July a number of dead mosquito adults were found amongst a box of bananas from Ecuador whilst being inspected by MAF officers. A range of species were discovered including *Anopheles albimanus*, *Culex erraticus*, *Mansonia titillans* and *Culex quinquefasciatus*.

On the 29th of July some suspected mosquito adults were caught while flying around a container that was being devanned. The specimens turned out to be chironomid midges.

SAMPLES

During July, 396 samples were collected by staff from 11 District Health Boards, with 26 positive. Sampling numbers were virtually the same as last month, but with much fewer positives, however sampling was much lower than this time last year. The specimens received were:

Species	Adults	Larvae
NZ Mozzies		
<i>Aedes antipodeus</i>	3	0
<i>Ae. notoscriptus</i>	0	508
<i>Ae. subalbirostris</i>	0	1
<i>Culex pervigilans</i>	0	90
<i>Cx. quinquefasciatus</i>	5	10
Exotics		
<i>Anopheles albimanus</i>	3	0
<i>Culex erraticus</i>	2	0
<i>Mansonia titillans</i>	10	0
TOTAL MOSQUITOES	23	609

WEBSITE

There certainly seems to be desire from members of the public to eliminate their household and backyard public health nuisance pests, and several public health units have proactively placed their orders for sampling and trapping equipment and consumables for the coming season. The purchase order option is working well, only PHS's are permitted to use this option, goods are shipped on receipt of your order and an invoice is generated from our accounts.

There is currently a week turn around on the reconditioned light traps, so get your orders in early for the coming season if you haven't already. Octenol is available as are adult trap pottles and stockings.

Thank you for your interest in our website, based on the regular enquiries we have been receiving the public also seem to be enjoying the information available from the site. If you have any suggestions or enquiries please send us an email enquiries@smsl.co.nz or visit the website to complete the online enquiry form.



NEW ZEALAND BIOSECURE



Entomology Laboratory



MOSQUITO-BORNE DISEASES

MOSQUITO, IMPORTED - ITALY: (BELLUNO)

A ProMED-mail post

<<http://www.promedmail.org>>

Date: 31 Jul 2011

From: Francesca Russo

The exotic mosquito *Aedes koreicus* has been identified in Italy for the 1st time, in a small town in Belluno province, northeastern Italy.

The species was previously introduced in Europe in Belgium in 2008, where it successfully established itself (Versteirt et al. 2009).

Arrival and acclimatisation of the exotic mosquito species *Aedes koreicus* in Belgium, Europe. 94-96 in Coosemans et al. Mosquito vectors of disease: spatial biodiversity, drivers of change, and risk.

Final Report. Brussels: Belgian Science Policy 2009 131 pp).

Larvae were collected in a single manhole and in small water containers from 2 private gardens and at the cemetery during a regular monitoring program promoted by the Veneto region and the Local Health Unit against the Asian tiger mosquito (*Aedes albopictus*), which is not present in the village. Larvae and laboratory moulted adults were morphologically identified as *Aedes koreicus* and then confirmed by PCR.

Epidemiological and entomological surveys at the village and the surrounding area are ongoing to understand whether the species is already established and to trace back the possible route of entry.

Previous experiences of invasive species introduction in USA and Europe (*Aedes albopictus* and *A. japonicus*) suggest that used tires and plants are the major route of entry.

This species is native to Korea, Japan, China and eastern Russia. Not much information is available on its biology and activity. The species is known to

feed on humans and domestic animals, and it seems to adapt well to urban environments.

The mosquito is a potential vector of arboviruses, and it has been demonstrated to transmit Japanese encephalitis [virus] and *Dirofilaria immitis* (dog heartworm).

This finding once again highlights the importance of implementing entomological surveillance for early detection of new invasive species.

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Francesca Russo

<Francesca.Russo@regione.veneto.it>

[ProMED thanks Francesca Russo for this interesting report. These firsthand reports are timely and valuable.

Detection of the presence of *Ae. koreicus* is another example of the movement and establishment of potential pathogen vectors around the world and the need for constant surveillance to recognize them when they arrive in new locales.

The published evidence for the vector status of *Ae. koreicus* is scant. The only reference that this moderator was able to find was a Russian language report cited in the reference below that indicated that Russian scientists considered this species, along with other *Aedes* species, to be significant vectors of Japanese encephalitis

(JE) virus in Russia. If in fact this species becomes permanently established and spreads in Europe, one hopes that laboratory experiments testing its vector capacity for several arthropod-borne viruses, such as JE, West Nile, chikungunya and others, will be done and published in the international literature, as has been done for *Ae. japonicus* and *Ae. albopictus*.

Reference

Takashima, L. and L. Rosen. 1989. Horizontal and vertical transmission of Japanese encephalitis virus by *Aedes japonicus* (Diptera: Culicidae). J Med. Entomol. 26: 454-458.



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JAPANESE ENCEPHALITIS AND OTHER - INDIA (09): (UTTAR PRADESH)

A ProMED-mail post
<<http://www.promedmail.org>>

One more child succumbed to encephalitis at a hospital here, taking the death toll due to the deadly disease in eastern UP to 128 this year [2011]. 13 new cases have been reported to the state-run BRD Medical College Hospital since yesterday [5 Aug 2011], Senior Paediatrician K.P Kushwaha said. 124 patients suffering from the disease are undergoing treatment in the hospital.

As many as 731 encephalitis cases were reported in hospitals in the region this year [2011]. Gorakhpur and Kushinagar are the worst affected districts.

The fever is caused by a virus found in pigs and is transferred to humans by mosquito bite.

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JAPANESE ENCEPHALITIS - CHINA (HONG KONG)

Date: Sat 6 Aug 2011
Source: RTHK [edited]

Hong Kong has confirmed its 1st case of Japanese encephalitis in 4 years.

The patient, a 6-year-old girl, was admitted to Tuen Mun hospital with fever and vomiting last month [July 2011]. She is now in stable condition. She had no recent travel history, and 4 of her family members are under medical surveillance.

WEST NILE VIRUS - EURASIA (04): GREECE

Date: Thu 4 Aug 2011
Source: Eurosurveillance Edition 2011; 16 (31) [edited]

Evidence of enzootic circulation of West Nile virus (Nea Santa-Greece-2010, lineage 2), Greece, May to July 2011

Abstract

A West Nile virus (WNV) surveillance network including sentinel chickens was deployed in Thessaloniki county, Greece, from May - July 2011. For the 1st time in summer 2011, a chicken WNV isolate from 6 Jul 2011 was identified molecularly. The partial NS3 sequence was identical to that of the Nea Santa-Greece-2010 WNV lineage 2, detected in central Macedonia [region] in 2010. This suggests that WNV is actively circulating in central Macedonia and that it may have overwintered in northern Greece.

Background

During 2010, Greece underwent the 2nd largest West Nile virus (WNV) epidemic in Europe in the last 2 decades, with 262 clinical human cases and 35 fatalities. WNV lineage 2 was identified in 2 pools of *Culex* mosquitoes (Nea Santa-Greece-2010 virus) and in wild birds that were sampled during the epidemic season of 2010 from areas in close proximity to human cases. No active vector and arbovirus surveillance system was in place in Greece before the epidemic in 2010. We initiated a monitoring programme in 2011.

Results

Seroconversion of the 1st sentinel chicken was detected in the agricultural area of west Thessaloniki in the city of Chalastra on 29 Jun [2011]. On 13 Jul [2011], a 2nd chicken seroconversion was detected in the city of Agios Athanasios, followed by a 3rd chicken seroconversion on 20 Jul [2011] in the same area.

Discussion

Transmission in the sentinel chickens occurred immediately after the 1st significant *Culex*



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population peak, as has been observed in [other] WNV outbreaks. [The] 2 principal WNV vectors in Europe, *Cx. pipiens*- and *Cx. modestus*, are highly abundant in the agricultural area of Thessaloniki and both species may be associated with the transmission of the virus.

[Byline: A Chaskopoulou, C I Dovas, S C Chaintoutis, I Bouzala, G Ara, M Papanastassopoulou]

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Photo of the Month



Mosquito Fish about to eat a mosquito larva (CDC)