NEW ZEALAND BIOSECURE
Entomology Laboratory
A DIVISION OF SMS SOUTHERN MONITORING SERVICES LIMITED

BORDER HEALTH NEWSLETTER - March 2011

WELCOME!

Hello again everyone. I hope you've all managed to brave the latest cold snap and get out and about collecting those mozzies before winter really sets in. With the abundance of water in many areas at present, mozzie larvae are still easy to find but it won't be long before the numbers start dropping off dramatically.

INCURSIONS/INTERCEPTIONS

March was a quieter month with only two interception callouts. The first involved an adult female *Culex quinquefasciatus* found in the AIAL MAF x-ray area and the second was an adult female *Cx. pervigilans* found in the AIAL MAF arrivals hall.

WEBSITE

The SMS and New Zealand BioSecure website continues to attract more traffic in relation to public and environmental health enquiries and availability of products for the control of public health nuisance pests and surveillance tools. Ticks, mosquitoes, dust mites and head lice generate numerous and increasingly regular enquiries, in addition downloading of information available on the website is also increasing as the website becomes more frequently visited.

PHS are considered commercial clients by the website and are able to use the purchase order option for any supplies that are required, this is followed up with an invoice direct to you. Please ensure you include an order number for referencing in the invoice. If a product is listed as please enquire, there are generally restrictions on its sale. We hope you are finding this on-line service useful and are always happy to address any enquiries or matters you may wish to discuss. Please feel free to contact us through the website, or email us directly at enquiries@smsl.co.nz or taxonomy@nzbiosecure.net.nz.

SAMPLES

During March, 747 samples were collected by staff from all 12 District Health Boards, with 214 positive. Sampling numbers were down slightly on last month which is not surprising giving the changeable weather experienced this month and also down on this time last year. The specimens received were:

Species	Adults	Larvae
NZ Mozzies		
Aedes antipodeus	116	0
Ae. australis	0	3
Ae. notoscriptus	306	2301
Coquillettidia iracunda	8	0
Culex pervigilans	278	1140
Cx. quinquefasciatus	339	662
Opifex fuscus	1	14
Exotics	0	0
TOTAL MOSQUITOES	**1048**	**4120**

Photo of the Month

Photo of adult female *Culex pipiens*, the species responsible for spreading West Nile Virus in Greece at the moment (see article on page 3).

Photo ex http://aramel.free.fr/Culex-pipiens-f.jpg

MOSQUITO-BORNE DISEASES

MOSQUITOBORNE DISEASE SPARKS HEALTH WARNING – NSW, AUSTRALIA

Source: Warren Advocate [edited] 10 Mar 2011 reported on ProMED Mail 13 Mar 2011

The mozzies may have quietened down a bit since the flooding eased but the recent detection of Murray Valley encephalitis has sparked a warning from health professionals.

Western New South Wales (NSW) and Far West Local Health Networks warn residents and visitors to protect themselves against mosquitoes following the detection of the disease found in sentinel chickens located in the Macquarie Marshes.

Sentinel chicken flocks act as a warning system for human infection by being regularly monitored for viruses that mosquitoes can transmit to people and cause illness. NSW chief health officer Dr Kerry Chant said the latest detection should serve as an important reminder for people to protect themselves.

"Positive findings in chickens are rare in NSW. The important message is to avoid mosquito bites and be alert to any symptoms," Dr Chant said. "The current area of risk extends in regions west of the Great Dividing Range and is likely to be highest around rivers, wetlands and flooded areas. The increased risk of human cases is related to increased mosquito breeding related to warm temperatures, heavy rainfall and flooding."

Associate professor Tony Brown from the University of Sydney School of Rural Health said MVE [Murray Virus encephalopathy] is rare and there have been no human cases detected since 2008 in NSW. In that instance MVE was detected in someone who lived near the Macquarie Marches and that person recovered.

"Most people who contract MVE will not develop symptoms, but it is a serious mosquitoborne disease," said Dr Brown. He said in mild cases, MVE symptoms can include fever, headache, nausea and vomiting and muscle aches. In more severe cases symptoms can include neck stiffness, lethargy, drowsiness, confusion, delirium, tremors, neurological problems and coma in severe cases. "People with these symptoms should immediately seek medical assistance," said Dr Brown.

"Parents concerned about a child with fever, should see their doctor and especially if their child has convulsions, drowsiness, floppiness, irritability, poor feeding or general distress."

Simple steps to avoid being bitten by mosquitoes include:
-- when outside cover up as much as possible with light-coloured, loose-fitting clothing and covered footwear;
-- use an effective repellent on all exposed skin. Re-apply repellent within a few hours, as protection wears off from perspiration, particularly on hot nights. The best mosquito repellents contain diethyl toluamide (DEET) or picaridin;
-- the stronger the concentration of an insect repellent, the less frequently it will need to be applied to stop mosquito bites. Repellents containing low concentrations of DEET or picaridin provide shorter periods of protection and need to be reapplied more frequently so it's important to read the product information;
-- topical repellents are not recommended for use on children under 3 months. Use of physical barriers such as netting of prams, cots, and play areas is preferred. Repellents containing less than 10 per cent DEET or picaridin are safe for older children if applied according to instructions. Parents or carers should apply repellent;
-- light mosquito coils or use vapourising mats indoors. Devices that use light to attract and electrocute insects are not effective.
-- cover all windows, doors, chimneys, vents, and other entrances with insect screens;

-- when camping, use flyscreens on caravans and tents or sleep under mosquito nets.

WEST NILE VIRUS - GREECE

Source: ProMED Mail 14 Mar 2011

From early July through October 2010, a total of 261 laboratory confirmed cases of West Nile virus (WNV) infections in humans were reported, in central Macedonia as well as in the district of Larissa (Northern Greece). Of these, 191 patients presented with neuroinvasive symptoms and 34 deaths have been reported (1).

A WNV lineage 2 strain was molecularly detected in a European magpie and was identified and characterized, in our laboratory. This corvid was hunted in central Macedonia in September 2010, during the recent WNV outbreak in humans. This is the 1st molecular detection of WNV lineage 2 in wild birds in Greece.

Phylogenetic analysis of a 604-nt sequence (partial NS5 genomic region) revealed high homology of our strain with the Hungarian and Austrian lineage 2 strains detected in previous years in birds of prey. Apart from our strain, a strain of WNV lineage 2 (146 nt) was detected in 2 pools of mosquitoes in nearby areas in the same period by Dr Papa (2), supporting the hypothesis that WNV lineage 2 was the etiologic agent of the WNV outbreak in humans in 2010.

There is currently an ongoing sequencing of our strain that will allow us to draw more conclusions regarding the recent WNV lineage 2 outbreaks in Europe. We are continuing our study collecting wild bird samples dating from the recent outbreak in Greece till now, and performing molecular and serologic surveillance.

1. Hellenic Centre for Disease Control and Prevention (KEELPNO). West Nile Virus Epidemic in Greece.

2. Papa A, Xanthopoulou K, Gewehr S, Mourelatos S: Detection of West Nile virus lineage 2 in mosquitoes during a human outbreak in Greece. Clin Microbiol Infect. 2011 Article first published online: 14 Jan 2011.

ST. LOUIS ENCEPHALITIS - ARGENTINA: (SAN JUAN)

Source: Diariodecuyo.com.ar [in Spanish Trans. Mod.TY, edited]

In a press conference, the Minister of Public Health, Oscar Balverdi, announced this morning [31 Mar 2011] that now "There are 5 laboratory confirmed cases" of the new disease [St. Louis encephalitis virus infection] transmitted by a mosquito. Moreover, he said, 6 or 7 more cases are under study. The virus infects people when they are bitten by *Culex pipiens*, a common mosquito, that transmits a disease [virus] called St. Louis encephalitis (SLE).

According to the Minister, the 5 patients infected by this virus are progressing well and all are from the [provincial] capital. Balverdi explained that the disease [virus] is transmitted by a vector, a common mosquito, that bites virus-infected birds and later transmits it to people when it bites them. "This virus is not transmitted from person to person," indicated the Minister.

The symptoms are the same as those presented when one contracts any virus disease (persistent fever, headache, malaise). Balverdi encouraged the community to seek medical attention if these symptoms present themselves, and also, take the same measures to avoid breeding [and bites] by any mosquito. That is to say, avoid water collection, use repellants, etc.

With respect to the man from Santa Lucia who died yesterday [30 Mar 2011], Balverdi said that they still do not know if he was infected by the virus and the case is under study.