



NEW ZEALAND BIOSECURE

Entomology Laboratory



BORDER HEALTH NEWSLETTER - SEPTEMBER 2011

WELCOME!

Well although we have gone past the equinox we are not yet into hot summer weather with NIWA reporting that September was an unusually dry and cool month with rainfall less than 75% of normal across most regions. The only notable exceptions to this were Auckland experiencing average rainfall, and higher than average rainfall in the Southland and Central Otago regions. Temperatures across the North Island and much of the South Island were also up to 1°C cooler than usual, despite many locations recording average to high levels of sunshine. But don't despair just yet, they have also made their predictions for the rest of the year expecting that temperatures are likely to be average or above average in the North Island and in Nelson-Marlborough. For the remainder of the South Island, temperatures are likely to be near average and that late spring-early summer rainfall is likely to be normal or below normal for all regions of New Zealand. Soil moisture levels and river flows are likely to be below normal everywhere, except for the west and south of the South Island where normal or below normal soil moisture levels are likely.

So hopefully we can expect the next quarter to be warm (maybe even hot at times) and dry. From a mozzie point of view that could be a mixed blessing, less water can mean less habitat but the higher temperatures will allow for faster breeding. We will need to wait and see whether the weather men are right but it would be worth while keeping a close eye on mosquito activity in your areas over the next few months as we move into summer.

If you would like to see NIWAs full outlook for your area you will find it here:
<http://www.niwa.co.nz/node/102848>

INCURSIONS/INTERCEPTIONS

There were no incursions in September, however a response was initiated on the 30th of

September following a sighting of a flying insect, believed to be a mosquito, in a 40' container of toilet rolls, ex Australia, that was being devanned in Auckland. No specimens were collected from the container and nothing untoward was discovered in the delimiting survey.

SAMPLES

During September, 274 samples were collected by staff from 12 District Health Boards, with 31 positive. Sampling numbers were down on last month which was unexpected as the season warms up but is probably due to non-reporting of negative samples. Sample numbers are much lower than this time last year, probably for the same reason. The specimens received were:

Species	Adults	Larvae
NZ Mozzies		
<i>Aedes antipodeus</i>	3	0
<i>Ae. notoscriptus</i>	0	554
<i>Coquillettidia iracunda</i>	0	0
<i>Culex pervigilans</i>	2	135
<i>Cx. quinquefasciatus</i>	3	0
<i>Opifex fuscus</i>	0	3
Exotics	0	0
TOTAL MOSQUITOES	5	692

WEBSITE

A few new products this month for everyone to view, and the public enquiries continue to come through the website which is great. Don't forget PHS should use the purchase order option to ensure an invoice is generated. Have a look, changes and updates occur almost weekly as new items and information is added. <http://www.smsl.co.nz/>. We are always looking for products for sale or suggestions for enhancing our service promotion, so if you have any suggestions please forward them through: enquiries@smsl.co.nz or taxonomy@nzbiosecure.net.nz

Phone 09 421 1034

Email Taxonomy@nzbiosecure.net.nz

or Enquiries@smsl.co.nz

Website www.smsl.co.nz

BIOSECURITY SPECIALISTS



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MOSQUITO-BORNE DISEASES

AEDES ALBOPICTUS, USA: (CALIFORNIA)

A ProMED-mail post

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

ProMED-mail is a program of the International Society for Infectious Diseases

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

Date: 12 Sep 2011

Source: San Gabriel Valley Mosquito & Vector Control District [edited]

<<http://www.sgvmosquito.org/downloads/Albopictus/Aedes%20albo%20press%20release%209.2011.pdf>>

Asian tiger mosquitoes (*Aedes albopictus*) were identified last week in the 11 000 block of Dodson St. in the city of El Monte. This aggressive day-biting mosquito is not native to California and has not been seen in the San Gabriel Valley since 2001, when it was accidentally imported in shipments of *Dracena* spp. or "Lucky Bamboo" plants from Southeast Asia.

The San Gabriel Valley Mosquito & Vector Control District is working with the California Department of Public Health, Vector-Borne Disease Section and the Greater Los Angeles County Vector Control District to evaluate the extent of the infestation and will aggressively target problem areas to prevent its spread. "Our goal is to eradicate this population," said Kenn Fujioka, the district's assistant manager. "We definitely do not want this mosquito to become established in our communities."

The district will expand the search this week and go door-to-door in surrounding neighborhoods to undertake control measures including education, source reduction, larval control, and local ground-based adulticiding (fogging) as necessary to target adult mosquitoes.

Fogging will begin as early as Fri 16 Sep 2011 in the immediate infestation area. Residents in these areas will receive a minimum of

24 hour notice prior to any adult mosquito control operations.

Unlike our most common species in the San Gabriel Valley, this tiny (approx. 6 mm) distinctive black and white mosquito is a very aggressive "day-biter." While they may be active around dusk and dawn, it is their daytime biting habits that are most characteristic.

Residents experiencing mosquito bites during the day are urged to report them to the district. "We need the public's help on this one," urged Fujioka, "Anything holding even the smallest amount of water must be overturned and stored upside down. Please survey your property and discard any unneeded containers, cans, buckets, and tires, or move them into the garage/shed." This mosquito is even known to lay eggs in water-filled holes in asphalt and concrete.

Native to Southeast Asia, this mosquito has invaded other countries through international transport of goods and travel. It was 1st found in the United States in 1985 and has since spread throughout the southeast and eastern US.

Aedes albopictus is an efficient vector (transmitter) of dengue, yellow fever, chikungunya, and several viruses that can cause encephalitis. This species is responsible for recent outbreaks of dengue virus in south Florida, Texas, and Hawaii, a virus not seen in the continental United States since 1946 [more accurately, since 1946 until it appeared and was locally transmitted in Florida in 2009 and 2010, as reported in ProMED-mail archive no. 20100915.3345. - Mod.TY].

Pictures of this mosquito and information about control measures can be found on the district's website at <<http://www.SGVmosquito.org>>.

Residents are urged to call or use the "Report a Problem" link to report possible sightings.



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Communicated by:
Nikos Gurfield, DVM, DACVP
County Veterinarian
Dept. of Environmental Health
Vector Disease and Diagnostic Laboratory
<nikos.gurfield@sdcounty.ca.gov>

[ProMED thanks Dr. Gurfield for sending in the above report.]

The University of California, Riverside's Center for Invasive Species Research reported, "...isolated introductions of this mosquito were detected and eradicated in California in 1971 and 1987. In 2001, the Asian tiger mosquito was found in 2 northern and 4 southern counties of California. This mosquito did not spread to California from the ongoing invasion in eastern and central U.S. but was introduced into the state in shipments of ornamental bamboo ("Lucky Bamboo") from South China. Rapid detection of introduction and control efforts prohibited the spread of this species throughout California."
(http://civr.ucr.edu/asian_tiger_mosquito.html).

Ae. albopictus was also found in southern California in 2004 (see ProMED-mail archive no. 20040920.2598) but was eliminated.

As indicated above, *Ae. albopictus* is very versatile in its breeding sites, so eradication will be a significant challenge. ProMED will be interested in the progress of the control program as it goes forward.

A CDC map showing the distribution of *Ae. albopictus* as of 2000 can be accessed at http://www.cdc.gov/ncidod/dvbid/arbor/albopic97_sm.htm. - Mod.TY]

JAPANESE ENCEPHALITIS AND OTHER - INDIA (26): (UTTAR PRADESH)

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

ProMED-mail is a program of the International Society for Infectious Diseases
<<http://www.isid.org>>

Date: Sun 9 Oct 2011
Source: Investors, United Press International (UPI) via COMTEX report [edited]
<<http://www.investors.com/NewsAndAnalysis/Newfeed/Article/136751807/201110092330/Encephalitis-kills-hundreds.aspx>>

Encephalitis, a deadly viral disease, has killed hundreds of people, many of them children, in the past 2 months in India, health authorities said. Gorakhpur in the northern state of Uttar Pradesh has been the worst hit so far with more than 370 reported dead, NDTV television channel reported Sunday [9 Oct 2011]. The broadcaster said the disease appeared to be spreading outside the state with Delhi and Chandigarh areas reporting similar cases.

CNN-IBN, quoting public health experts, reported that although the water or mosquito-borne viral disease has been concentrated in the eastern parts of Uttar Pradesh for years, claiming hundreds of lives each year, the epidemic has been badly mismanaged as the state is one of the poorest in the country.

The network said pediatric hospitals in the Gorakhpur area are unable to handle the rush of encephalitis patients. "Every day we have to cope with this situation and this has been going on for the last 2 months. The number of patients is so large we cannot cope with the resources we have," said one pediatrician at the BRD Medical College and Hospital. The network said the hundreds of patients admitted to various hospitals are suffering either from the mosquito-borne Japanese encephalitis or its water-borne strain [enteroviruses].

The situation is repeated year after year in the state during the monsoon season and the epidemic has still not been contained, CNN-IBN reported. The report said the state government has allocated



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more than USD 5 million to handle the current crisis, but Dr RN Singh, who has been fighting to eradicate the disease, says it is too little too late. He says he is fed up as the issue has not yet been taken up as an emergency on a national scale.

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Communicated by:
ProMED-mail from HealthMap alerts
<promed@promedmail.org>

[Reports of undetermined acute encephalitis syndrome (AES) cases in northeastern India this year (2011) have suggested a relationship to contaminated water perhaps due to enteroviruses. ProMED-mail subscriber Ronan Kelly of FluTrackers <ronankelly@comcast.net>, provided some helpful references that indicate the enterovirus and other virus infections diagnosed in the recent past. It is unfortunate that the viruses responsible for the many recent AES cases apparently have not been identified in the recent reports that have come to ProMED-mail.

References

1. Sapkal GN, Bondre VP, Fulmali PV, et al: Enteroviruses in Patients with Acute Encephalitis, Uttar Pradesh, India. 2009. Emerg Infect Dis. 2009; 15(2): 295-8;
<<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2657625/>>

Abstract

An outbreak of viral encephalitis occurred in northern India in 2006. Attempts to identify an etiologic agent in cerebrospinal fluid by using reverse transcription-PCR showed positivity to enterovirus (EV) in 66 (22 per cent) of 306 patients. Sequencing and phylogenetic analyses of PCR products from 59 (89 per cent) of 66 specimens showed similarity with EV-89 and EV-76 sequences.

2. Beig FK, Malik A, Rizvi M, et al: Etiology and clinico-epidemiological profile of acute viral encephalitis in children of western Uttar Pradesh, India. Int J Infect Dis 2010;

14(2): 141-6;
<<http://www.sciencedirect.com/science/article/pii/S1201971209001945>>

Summary

87 patients were enrolled in the study. The most common etiology of VE was enterovirus 71 (42 per cent), followed by measles (21 per cent), varicella zoster virus (16 per cent), herpes simplex virus (11 per cent), and mumps (11 per cent). Japanese encephalitis virus was not found in any case. Enterovirus 71 infection caused significant morbidity in children; mortality occurred in 50 per cent. A preponderance of cases occurred in December. In our study generalized convulsions along with altered sensorium were the significant findings in patients with VE. Enterovirus 71, the major etiology of VE in our study, was associated with significant mortality and morbidity. Such studies should be conducted frequently to assess the role of emerging VE in different regions.

3. Kumar A, Shukla D, Kumar R, et al: An epidemic of encephalitis associated with human enterovirus B in Uttar Pradesh, India, 2008. J Clin Virol 2011; 51(2): 142-5;
<<http://www.sciencedirect.com/science/article/pii/S1386653211000989>>

Abstract

Enterovirus RNA was detected in 37 (41 per cent) of 90 CSF samples by real-time polymerase chain reaction (PCR). Seroneutralisation, amplification, and sequencing of the 3'-end of the VP1 region of EV isolates revealed coxsackievirus B5 (CBV) and echovirus 19 (ECV) as the main serotypes causing this epidemic. Phylogenetic analysis showed that sequence divergence among the same serotypes was 0-4 per cent at the nucleotide level. This is the 1st report suggesting that CBV 5 and ECV 19 may be responsible for an epidemic of encephalitis in India. These serotypes were variant and evolved within the studied area.

An interactive HealthMap/ProMED-mail interactive map showing the location of Uttar Pradesh state can be accessed at <<http://healthmap.org/r/1iZ5>>. - Mod.TY]



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Photo of the Month