



BORDER HEALTH NEWSLETTER – September 2015

WELCOME!

Hi everybody! Spring is finally showing up and mosquito numbers are slightly increasing. We look forward to seeing some of you at the Vector Surveillance Workshop in Auckland. For those that cannot make it you could come and visit the lab for a “mizzie clinic”. If you have any questions for the new main season, please contact the lab and we can discuss sample sites and gear. Also, any pictures of your trap sites are most welcome to complete our maps of your PHU.

SAMPLES

During September 537 samples were collected by staff from 12 DHBs with 63 positive. The numbers compared to September last year are surprisingly similar. For the *Culex astilae* a known sample site where they occur has been deliberately visited. The number of larvae are much higher this month compared to August but no *Aedes notoscriptus* adults have been found this month.

Species	Adults		Larvae	
	Sept 15	Sept 14	Sept 15	Sept 14
New Zealand Mizzies				
<i>Aedes antipodeus</i> (winter mosquito)	Nil	Nil	Nil	Nil
<i>Ae. australis</i> (saltwater mosquito)	Nil	Nil	Nil	1
<i>Ae. notoscriptus</i> (striped mosquito)	Nil	Nil	1928	1931
<i>Culex astilae</i>	Nil	Nil	12	Nil
<i>Cx pervigilans</i> (vigilant mosquito)	2	7	109	168
<i>Cx. quinquefasciatus</i> (southern house mosquito)	1	4	12	31
<i>Opifex fuscus</i> (rockpool mosquito)	Nil	Nil	2	8
Total	3	11	2063	2139

INCURSIONS/INTERCEPTIONS

We have had a single interception in September:

- 7.9. One local female chironomid was caught alive at Turners & Growers AKL in the MPI inspection room near mandarins from Australia.

NEWS OF THE MONTH

El Nino could spark large-scale dengue fever epidemic

AFP

Miami (AFP) - The weather phenomenon known as El Nino could lead to an epidemic of dengue fever cases in southeast Asia, international researchers said Monday.

Cases of dengue fever have been shown to rise along with the ocean warming trend, which occurs some years but not others. The current El Nino, which has already begun and is forecast to last into next year, is expected to be among the most intense in 20 years, researchers say.

"Large dengue epidemics occur unexpectedly, which can overburden the health care systems," said lead author Willem van Panhuis, assistant professor of epidemiology at University of Pittsburgh



Graduate School of Public Health.

"Our analysis shows that elevated temperatures can create the ideal circumstance for large-scale dengue epidemics to spread across a wide region."

Researchers analyzed 18 years of monthly dengue surveillance reports across southeast Asia, according to the study published in the Proceedings of the National Academy of Sciences, a peer-reviewed US journal.

They found trends among the total of 3.5 million reported cases in eight countries.

During the last particularly strong El Niño season, in 1997 and 1998, "dengue transmission was very high, matching up perfectly with high temperatures that allowed mosquitoes to reproduce faster and spread dengue virus more efficiently," said the study.

The higher temperatures in the tropics and subtropics were brought on by El Niño, moving warm sea water temperatures in the eastern Pacific toward the west.

The World Health Organization says the global incidence of dengue has grown dramatically in recent decades, and about half of the world's population is now at risk.

Dengue's link to El Niño

The Phnom Penh Post

Tue, 6 October 2015 by Igor Kossov

As Cambodia contends with one of the strongest El Niño cycles in recent memory, a new study of millions of dengue cases over the past two-decades-plus has shown that spikes in the deadly disease across Southeast Asia may be linked to the weather phenomenon.

"Multiannual dengue cycles (2-5 years) were highly coherent with the Oceanic Niño index and synchrony of these cycles increased with the temperature."

El Niño, a weather phenomenon associated with high sea surface temperatures, will likely last through the end of this year, according to the UN Food and Agriculture Organization. However, the higher threat of dengue fever may last through the next two years, said Dr Huy Rekol, director of the Steve Iddings, an environmental engineer with the World Health Organization, cautioned against drawing causal links, because the relationship between dengue and climate is "complex".

Nonetheless, he said, dengue, like other water-related diseases, is sensitive to changes in temperature and water cycles.

In warmer weather, the dengue virus's life cycle inside mosquitoes speeds up, increasing the chance of infection, according to Iddings.



"Things happen quicker at warmer temperatures, and there are trends showing increasing temperatures," he said. According to the World Health Organization, there were 5,274 cases of dengue – including 16 deaths – reported in Cambodia this year as of August 3. The figure represents a nearly 50 per cent increase over the roughly 3,600 cases – with 21 fatalities – in all of last year, though 2014 had unusually low incidence of dengue.

A mother watches over her son, who was diagnosed with dengue fever, at a hospital in Phnom Penh. A new study has found a link between rising temperatures and dengue outbreaks in the region. Hong Menea



NEW ZEALAND BIOSECURE



Pacific region prepares for strengthening of El Niño: UN

The United Nations is urging Pacific Islanders and their governments to prepare now for a looming El Niño emergency with the potential to affect more than four million people.



SUAVE, Fiji, 14 September 2015

The United Nations is urging Pacific Islanders and their governments to prepare now for a looming El Niño emergency with the potential to affect more than four million people. “Climatologists are now unanimous in predicting that we are heading for a strong to severe El Niño event in the coming months. Some modelling is now suggesting this El Niño could be as severe as the event in 1997/98 which is the worst on record and brought severe drought to PNG and Fiji,” United Nations Resident Coordinator, Osnat Lubrani said.

Over the coming months, countries on the equator can expect more rain, flooding and higher sea levels presenting challenges for low-lying atolls already feeling the impacts of climate change. The more populous countries of the Pacific south west will see conditions get drier from now on with some eventually slipping into drought.

“Countries including Papua New Guinea, Fiji, Tonga and the Solomon Islands are already feeling El Niño’s impact with reduced rainfall affecting crops and drinking water supplies.

A range of health issues may emerge in an El Niño year making good hygiene and mosquito protection both crucial.

“Floods and droughts increase in vector-borne diseases including dengue, chikungunya and zika virus due to increase mosquito vectors and increased temperatures that can enhance reproduction and transmission of these viruses.”

PICTURE OF THE MONTH



Photo: 123RF

The recently released figures by the Department of Health (DOH) about the prevalence of dengue infections in the country show a rising incidence of the dreaded disease this year.

Compared to last year's figures, there has been a 16.5% increase in the number of cases or a total of 78, 808 persons suspected of contracting the dengue virus this year, within the same period from January 1 to September 5.

So far, the dengue virus has reportedly claimed 233 lives in 2015, and affected thousands more with symptoms that range from mild to severe. These numbers continue to grow every passing day.

STOP DENGUE



LIVE CLEAN



CLEAR OUT ALL MOSQUITO BREEDING GROUNDS



OLD TIRES, JARS, CANS, BOTTLES

GUTTERS, DRAINAGE

COVER ALL WATER VESSELS

REPLACE WATER IN VASES

Inibatha at pinamamahagi ng:



Para sa karagdagang impormasyon, tumawag sa:
Philippine Red Cross
37 EDSA corner Boni Avenue, Mandaluyong 1550
247 Hotline: 143
E-mail: prcinfo@redcross.org.ph
Web: www.redcross.org.ph

o makipag-ugnayan sa pinakamalapit na Red Cross Chapter sa inyong lugar



Maging Bantay, Magrebolero bilang mag
143 Tawanan sa sarapong banta



NEW ZEALAND BIOSECURE

VECTOR-BORNE DISEASES

Recent Local News



Dengue fever cases up in American Samoa

15 September 2015

The latest report from American Samoa's Health Department on dengue fever says the number of suspected cases has climbed to 414.

The September the 6th report includes those seen at the LBJ Hospital Emergency Room and clinics, and the Community Health Centres.

137 have been admitted to hospital.

Since the dengue fever outbreak in May, four people have died from the mosquito-borne disease.

Manu'a is still dengue-free.



Pacific syndromic surveillance report Week 37, ending 27 September, 2015

Dengue: As of 20 September there have been 435 cases reported in American Samoa since 5 May 2015 including 140 hospitalisations. The weekly number of cases is decreasing. Dengue serotype-3 has been identified.

Samoa: As of 27 September there have been 773 cases since 11 June 2015 including thirteen cases in the last week. The weekly number of cases is decreasing. Dengue serotype-3 was identified by the Institut Louis Malarde, French Polynesia.

ESR - MONTHLY NOTIFIABLE DISEASE SURVEILLANCE REPORT - August 2015

Chikungunya fever: One confirmed case was notified in August 2015 compared to one probable case notified during the same month of the previous year. Forty-five cases have been notified in the year to date compared to 13 at the same time in the previous year. The case reported overseas travel to Fiji during the incubation period.

No ZikV here, says health ministry

Jamaica observer Sunday, October 04, 2015

BY ALPHEA SAUNDERS

THE Ministry of Health has dismissed claims from Opposition spokesperson on health Senator Marlene Malahoo Forte that another mosquito-borne disease — the ZikaVirus (ZikV) — has reached Jamaica.

At a press conference on Thursday, Malahoo Forte said she had been reliably informed that three cases had been confirmed.

"I have heard that there are confirmed cases of the ZikV here... I got a call from someone whose employee was tested, and I'm reliably advised that it is a confirmed case. In fact, at the time when that case was confirmed, it was the third. I was called out of genuine concern," she stated.



NEW ZEALAND BIOSECURE

But Friday, at a joint press conference with the Ministry of Education to provide an update on the outbreak of hand foot and mouth disease in some schools, Health Minister Dr Fenton Ferguson said that the advice he has received from his technical team suggests that Malahoo Forte's information is incorrect.

"In fact, outside of Brazil, there have been no cases confirmed in any country in the Latin American and Caribbean region, including Jamaica," Ferguson said.

He added that if a case of ZikV is confirmed in the island, the ministry would inform the country.

The health ministry reported last Wednesday that a sample sent to the Caribbean Public Health Agency (CARPHA) to investigate a case of a "potential mosquito-borne viral illness" had tested negative for all three viruses that are spread by affected aedes aegypti mosquitoes -- dengue, chikungunya, and ZikV.



Chief Medical Officer Dr Marion Bullock DuCasse said the sample was sent for testing as a precaution. "We are taking the precaution to rule out these diseases, in particular the Zika Virus. The ministry has heightened its response, given that this is the period where we usually see an increase in mosquito-borne illnesses," she said in a press release.

In May when the Pan American Health Organisation (PAHO) put the Caribbean on alert for ZikaV, which had broken out in Brazil, Malahoo Forte warned that the Jamaican Government should be very concerned.

Health Minister Dr Fenton Ferguson (centre) addressing a news conference called by his ministry and the Ministry of Education last Friday to provide an update on the outbreak of hand foot and mouth disease in some schools. Flanking him are Education Minister Ronald Thwaites and Chief Medical Officer Dr Marion Bullock Ducasse.

Oriental

92% People Unaware That Mosquito Causes Dengue: Survey

All India Press Trust of India | Updated: October 01, 2015 18:09 IST

NEW DELHI: At a time when the number of dengue cases is on the rise across the country, a survey has claimed that around 92 per cent people are unaware of the fact that the deadly disease is caused by mosquito bite.

The survey, which covered 16 cities with a sample size of around 1,600 respondents, is commissioned by Godrej Consumer Products Limited, which sells mosquito repellents under the brand name 'Good Knight'. It, however, said that 85 per cent of the respondents know it is a life threatening disease and 76 per cent parents are of the view that children are most vulnerable to dengue, said the survey report titled 'Good Knight Dengue Awareness'.

The survey, which was conducted by Nielsen, said the number of dengue cases has seen an alarming rise in the last few years.

"What's even more startling is that 80 per cent population agrees that mosquitoes are visible during the day but only 8 per cent use any repellents during the daytime," the report added.

Philippine dengue cases rise even as deaths fall

5 Oct 2015 by ROSIE MILLARD

Manila, Sept 26. The Department of Health has urged the public to increase their defences against



dengue after it recorded a 16.5% increase in the cases this year. (Reuters photo)

MANILA -- The number of dengue fever cases in the Philippines is on the rise reaching 78,800 in the first nine months of the year and resulting in 233 deaths, the Department of Health said Monday. Although the number infected is about 15,000 more than over the same period last year, the number of deaths is lower than 2014's 297 fatalities in the first nine months.

The Health Department will give insecticide-treated screens to public schools identified as high risk



for the mosquito-borne infection, spokesman Lyndon Lee Suy said in a radio interview Monday.

Presidential spokesman Herminio Coloma on Sunday said that despite the hike in the number of dengue cases in seven regions, cases in 10 other regions declined. "The DoH will continue to give assistance in the hospitals in these areas to improve their capabilities in giving immediate medical attention to the dengue patients," Mr Coloma said.

A boy covers his nose while a worker fumigates outside a residential area in Paranaque city, metro

USA

MA officials: 2nd person in 2015 dies of West Nile virus

Copyright 2015 The Associated Press

There is no elevation of risk of West Nile virus as a consequence

BOSTON (AP) — State public health officials say a woman has died of West Nile virus, the second fatality this year.

The Department of Public Health said Thursday it was the sixth human case of West Nile virus in Massachusetts this year. The woman was not identified, but officials say she was a Suffolk County resident in her 90s who likely contracted the virus in the Suffolk County area.

She was hospitalized due to the severity of the illness.

Officials say there is no elevation of risk of West Nile virus as a consequence. The risk level for Boston, Chelsea, Revere and Winthrop is already classified as "high."

State Public Health Veterinarian Catherine Brown says that even as cooler temperatures approach, Massachusetts is still in "peak season" for possible West Nile virus infection.

WORLD OF MOSQUITO Technology

Sharp debuts mosquito-catching air purifier

The Japanese appliance maker hopes to help tackle two major problems Southeast Asians are struggling against -- polluted air and mosquitoes.

October 1, 2015 by Aloysius Low

Mosquitoes are pesky insects in most western countries, but in tropical areas they're a legitimate threat to public health. Now, Japanese appliance maker Sharp has a new device to help Southeast Asia tackle its mosquito problem -- an air purifier that also catches the bloodsucking insects.

The Sharp FP-FM40E-B may not have the catchiest of names, but the company claims it's the first



NEW ZEALAND BIOSECURE

of its kind in the world. Besides purifying indoor air with its HEPA (high-efficiency particulate arrestance) filter, which is capable of trapping dangerous air particles as small as 2.5 microns, the device also has a cleverly designed glue trap that uses UV light to attract and ensnare mosquitoes. Lab tests conducted in partnership with Malaysia's Institute of Medical Research showed that the air purifier was able to reduce the population of 200 female mosquito in a simulated home environment by up to 91 percent for the Culex (household mosquito) as well as the smarter, dengue fever-causing Aedes mosquito by 73 percent. As an added bonus, they were also able to trap and kill up to 73 percent of houseflies.

Besides being able to catch insects and purify air, Sharp has also added plasmacluster ion technology into the filter, which it says will inhibit the growth of mold -- an issue in the region due to its high levels of humidity.



The Sharp will be sold in Singapore, Malaysia, Indonesia, Thailand, Vietnam and the Philippines. In Singapore, it'll fetch S\$459 (\$320) with replacement pack of three glue traps costing S\$19 (\$13). There are currently no plans to sell the purifier elsewhere, though Sharp is considering other tropical markets.

The filter also comes at a time where Malaysia, Singapore and Indonesia are experiencing a severe pollution haze, the cause of which is massive forest fires throughout the Indonesian islands of Sumatra and Borneo.

The Sharp FP-FM040E-B cleans the air while catching pesky mosquitoes.
Aloysius Low/CNET

WORLD OF MOSQUITO SCIENCE

Crime-scene technology adapted for mosquitoes to predict Ross River Virus outbreaks

The Sydney Morning Herald

September 20, 2015 by Harriet Alexander

The suspects are bloodthirsty and remorseless. The challenge for investigators is distinguishing from about 300 species of mosquito the dozen or so that present a danger to humans. Cutting-edge technology developed for investigating crime scenes is now being adapted for mosquitoes, in a bid to contain the health risks posed by those carrying viruses.

Last summer was the worst on record for Ross River virus outbreaks, mostly in northern NSW and Queensland, and it took health authorities by surprise.

NSW Health Pathology mosquito researcher Cameron Webb is collaborating with interstate colleagues on a process of barcoding the DNA of mosquitoes. Their goal is to identify which species are most likely to cause disease.

Thirty councils around the state are sending weekly mosquito samples to NSW Health under the arbovirus surveillance program. They are caught in carbon dioxide traps, which trick mosquitoes into believing a warm-blooded animal is nearby.



NEW ZEALAND BIOSECURE

After identifying the species under a microscope, scientists mash some with a mortar and pestle and culture any viruses they might be carrying.

But some of the trapped mosquitoes are playing a role in an experiment scientists hope will allow them to identify viruses and issue public health alerts more quickly.

Inside the traps, pathologists have planted a cardboard type substance developed by forensic scientists to trap bodily fluids at crime scenes.

The cardboard is smeared with honey and when the mosquito sinks her proboscis into the material and spits out – which is how she gets the blood flowing in an animal – she leaves behind a coat of saliva that is analysed for viruses.

"Mosquitoes aren't like a dirty syringe that passes blood from person to person," Dr Webb said.

"The virus infects a mosquito itself and it passes on the virus when it injects spit.

"So if we can collect saliva we don't need to mash up the mosquito to see what they're carrying."



Ross River Virus is not deadly, but it causes flu-like symptoms, such as headache, fever, muscle pain and chills, and can last from a few weeks to a few years.

People catch it from mosquitoes that have bitten wallabies or kangaroos with the virus, and about 5000 cases are usually reported annually – although there have already been 8000 cases this year.

Dr Cameron Webb has developed a new technique for

identifying Ross River virus from the saliva of mosquitoes. Photo: Nick Moir

MOSQUITO DISCUSSION

Mosquito-breeding spots will get housing society in trouble

The Times of India Oct 4, 2015

Mumbai: If any mosquito-breeding spot is found in your flat, the Brihanmumbai Municipal Corporation will not only slap a notice against you, but also against office-bearers of your housing society.

The city has witnessed a spike in the number of dengue cases. To make matters worse, a few housing societies which are considered plush have been stonewalling attempts by municipal workers on their campus to check for mosquito-breeding spots.

So, the municipal corporation will initiate action against those housing societies which forbid them access, especially if conditions conducive to mosquito-breeding are found to exist in any flat or elsewhere on the premises of the same society.

A senior municipal official said, "The chairman, secretary and other office-bearers of the housing society are responsible for taking adequate steps so that there is no mosquito-breeding on the terrace, in flats, and in the compound and lobby area of the society buildings. However, if mosquitoes are still found to be breeding, we will slap a notice on the society's office-bearers."

The municipal corporation's pest control department has, since the beginning of the year, been conducting training for citizens on how to detect breeding spots.

Civic officials from the insecticide department said that despite the continuing public awareness sessions, which they have been conducting, it is disappointing that they still find mosquitoes



NEW ZEALAND BIOSECURE



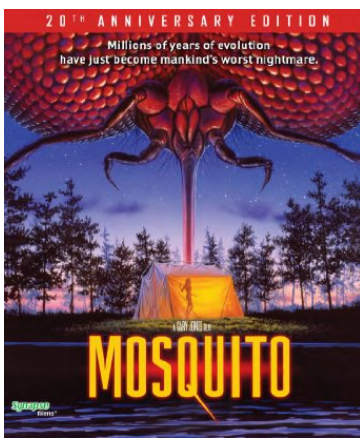
breeding in feng shui plants, petri dishes, drums or buckets used to store water and in flower vases. Workshops to train citizens were held in the city.

"When any dengue patient is found in a particular housing society, we need to check the adjoining areas too. However, not everyone cooperates with us," said a civic official.

DID YOU KNOW?

ONLY FOR FANS:

Mosquito: 20th Anniversary Edition Now on Blu-ray



Mosquito is a 1995 science fiction film directed by Gary Jones. The film's plot pays homage to the classic 1950s horror genre. The film stars horror icon Gunnar Hansen Ron Asheton, lead guitarist for the proto-punk rock band The Stooges.

After a long run on the USA Network, Mosquito was picked up by the channel SyFy. The film's classic b-movie dialogue, special effects that range from great to really bad, and eye popping gore have earned it a cult following.

The film opens with an alien ship that crashes into a U.S national park. A small mosquito starts feeding off the blood of a dead alien.

What follows is a fight between survivors in a forest camp environment and a herd of mammoth sized mosquitoes.

The premise isn't any more complicated than "don't get skewered by giant skeeters", and Mosquito never gets distracted by cutting away to baffled scientists or ineffective cops or whatever. For an hour and a half straight, someone's either being drained of every drop of blood, is frantically on the run, or bracing themselves for the next onslaught.

For example to blow up a room filled with mosquito larva with a bomb, while still fighting against the mutants.

