

BORDER HEALTH NEWSLETTER - SEPTEMBER 2017

WELCOME!

Kia Ora Koutou, daylight savings has arrived and with it comes longer sunshine hours and warmer temperatures, a perfect mix for an increase in mosquito activity around the country! I hope you are all gearing up for the summer mosquito season as it is fast approaching! Luckily our numbers are unlikely to get as high as in Florida after Irma stakes. Scroll down to the news articles below to find out what they are currently dealing with.

SURVEILLANCE

During September 963 samples were collected by staff from the 12 DHBs with 65 positive samples. This included 15 adult samples and 50 larval samples, leading to a total of 19 Adults and 911 larvae identified over the past month.

Larvae numbers have shown a significant decrease compared to this same month last year, while there has been an increase in adult samples in September this year compared to this same month last year (Table 1).

The endemic species this month are represented by *Culex pervigilans*, *Cx. quinquefasciatus*, *Opifex fuscus* and *Aedes antipodeus*. Endemic larvae have shown a decrease in September this year compared to last year (Table 1) and have also decreased in comparison to the total number in the previous month (August) of this year.

Table 1. Adults and larvae numbers found by the surveillance program during September of last year and this year.

Species (common name)	Adults		Larvae	
	Sep. 17	Sep. 16	Sep. 17	Sep. 16
<i>Aedes notoscriptus</i> (striped mosquito)	0	2	857	1824
<i>Ae. antipodeus</i> (winter mosquito)	2	3	0	0
<i>Culex pervigilans</i> (vigilant mosquito)	10	2	40	171
<i>Cx. quinquefasciatus</i> (southern house	7	3	1	41
<i>Opifex fuscus</i> (rockpool mosquito)	0	0	13	43
<i>Culex asteliae</i>	0	0	0	23
Total	19	10	911	2102

The introduced species for September are represented by *Aedes notoscriptus* and *Culex quinquefasciatus*. There were also two interceptions recorded over the month of September

which included two *Cx. quinquefasciatus* intercepted in Wellington and one *Anopheles* species intercepted in Auckland. Refer to Table 2 below for more information on these interceptions.

Aedes notoscriptus larval numbers have shown a decrease in all DHBs from this same month last year, other than Pacific Health DHB and Auckland DHB where the total numbers have increased (Figure 1). *Culex quinquefasciatus* was absent in samples in most DHB's this month with only one larva and eight adults in all identified samples (Table 1) and was only found in the Hawkes Bay in this same month last year (Figure 1)

Larvae numbers for both *Aedes notoscriptus* and *Culex quinquefasciatus* have also shown a decrease this month compared to last month. However, although *Ae. notoscriptus* has shown a decrease to both last year and last month totals, the majority of larval samples collected over the country this month were *Ae. notoscriptus* larvae. This is shown clearly in Figure 2 which displays the relative numbers of species sampled in the 12 DHB's over the September period.

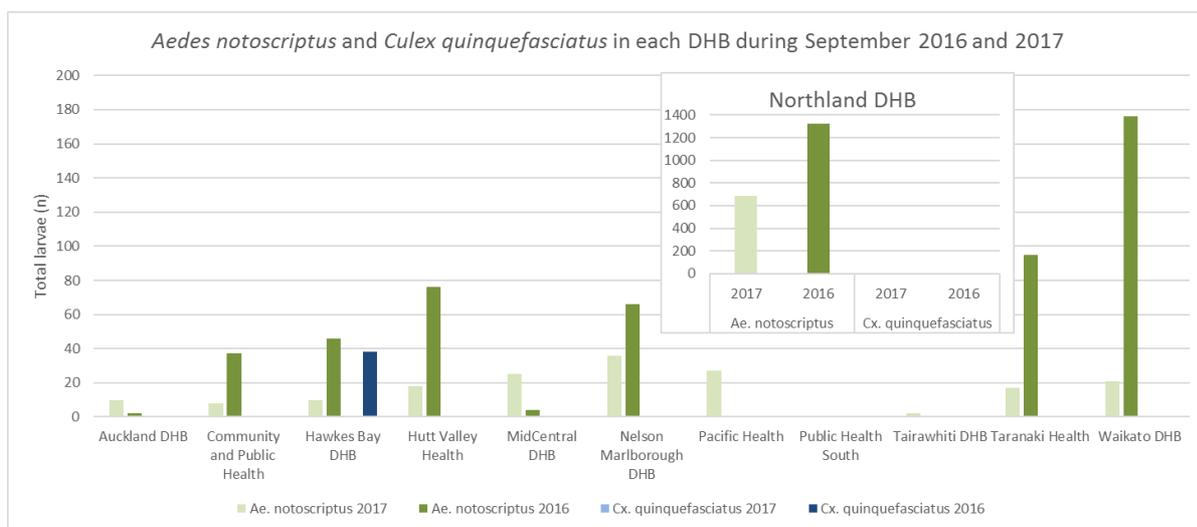


Figure 1. Comparison between introduced mosquitoes sampled in each DHB during September 2016 and September 2017.

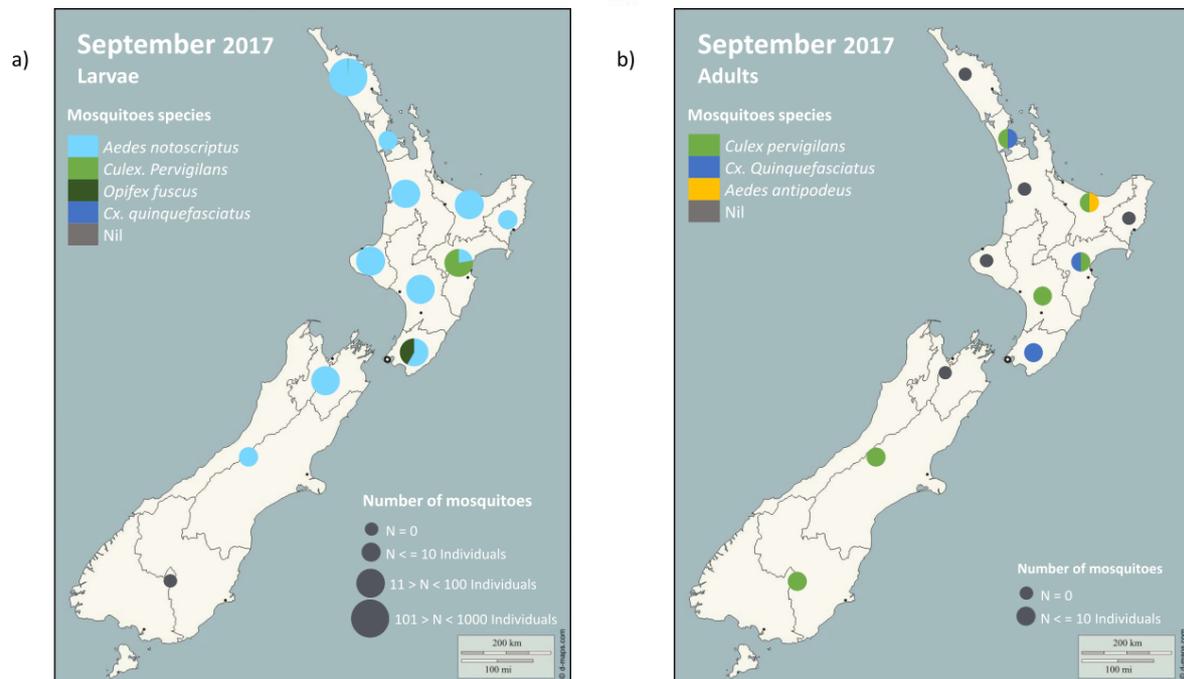


Figure 2. Mosquitoes larvae (a) and adults (b) sampled in September 2017.

* Please note that the markers represent the DHBs and not the specific sites where the samples have been taken.

INCURSIONS AND INTERCEPTIONS

During September, 2 interceptions have been recorded (Table 2). Exotic species are highlighted in light blue.

Table 2. Suspected interceptions during September 2017			
Date	Species	Location	Circumstances
06	2 male <i>Culex quinquefasciatus</i>	Wellington Port	Found dead in an imported Kombi van off ship at Wellington Port.
28	1 female <i>Anopheles sinensis</i>	JP Auto Spares, Mangere Auckland	Found dead in imported tyres.

NEWS ARTICLES FROM AROUND THE WORLD

“Super malaria” resistant to standard medications in South East Asia

The spread of a single multidrug resistant malaria parasite strain in Vietnam is cause for alarm say researchers. There is a rise of resistance to Artemisinin among the *Plasmodium falciparum* or malaria parasites in the Greater Mekong subregion. The researchers explain that this rise of resistance to artemisinin compounds means that these are resistant to several other antimalarial drugs that are at hand. This could be one of the “greatest threats to the control and elimination of malaria”. [Read more](#).



Mosquito trap in Florida catches 26,000 bugs in just 16 HOURS as researchers warn of record levels of insects following hurricane Irma



A single mosquito trap in Ridge Manor, Florida near Tampa collected approximately 26,000 mosquitoes. The surge in mosquitoes follows Hurricane Irma, which made landfall in Florida as a Category 4 storm on Sunday, September 17.

A mosquito trap in Florida has caught 26,000 insects in just 16 hours while normally the count would be around 500 total. This increased catch follows the wet and warm aftermath of Hurricane Irma. The sample included 10 different species of mosquitoes both day and night biters. We sure are happy that we don't have numbers like this in our New Zealand samples! [Read more.](#)

Infectious Mosquitoes Are Turning Up in New Regions



The *Aedes aegypti* mosquito, which spreads Zika, dengue and chikungunya, has been turning up places where it had rarely or never been seen. CreditMarvin Recinos/Agence France-Presse — Getty Images

A mounting number of citations on a popular disease-tracking website [ProMED mail](#), suggests that mosquitoes may be moving into new ecological niches with greater frequency. Most reports have concerned the United States, where, for example, *Aedes aegypti* — the yellow fever mosquito, which also spreads Zika, dengue and chikungunya — has been turning up in counties in California and Nevada where it had never, or only rarely, been seen. [Read more.](#)

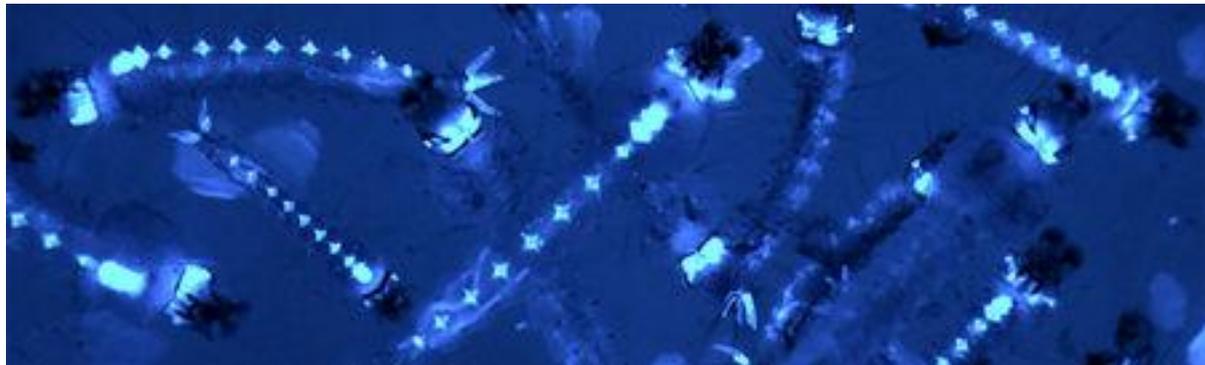


New LG smartphone with Technology to keep mosquitoes away



LG hopes its latest smartphone could stop you catching malaria. The LG K7i, launched by the South Korean firm at the India Mobile Congress this week, is embedded with technology that it says will keep mosquitoes away. It emits ultrasonic waves from a mesh grid on the back of the phone. The waves should repel the pests and are "absolutely safe and harmless for humans," the company said. However, Scientists have questioned the effectiveness of ultrasonic mosquito repellents. The American Mosquito Control Association saying at least 10 studies in the past 15 years have "unanimously denounced" them. [Read more.](#)

The microbes in a mosquito's gut may help fight malaria



Genetically modified mosquito larvae carry a gene that helps them resist the malaria parasite—and may also give them a mating advantage.

Two research teams have found that tinkering with mosquitoes' resident microbes can help them spread resistance to the malaria parasite. One used "weaponized" bacteria to deliver parasite-stopping proteins to mosquito guts. The other found that mosquitoes with a malaria-blocking gene have an unexpected mating advantage thanks to their microbes. [Read more.](#)



Chikungunya – Italy - Disease outbreak news

As of 14 September, fourteen autochthonous confirmed cases of chikungunya have been diagnosed in Italy, six in Rome and eight in the coastal area of Anzio (Lazio Region). There are additional cases being investigated. [Read more.](#)

Millions of infected Brazilian mosquitoes to tackle dengue



Experts from the Brazilian Fiocruz Institute release *Aedes aegypti* mosquitoes infected with a bacteria that prevents them from spreading dengue, Zika and chikungunya in Rio de Janeiro

Thousands of *Aedes aegypti* mosquitoes carrying the bacteria were released in front of journalists by scientists from the Fiocruz institute in Rio de Janeiro. The hope is that they will then breed and spread the bacteria, denting the insect population's ability to spread dengue and other viruses including Zika and chikungunya. [Read more.](#)

A BITE OF HUMOUR

Are you ready for the summer season!?





NEW ZEALAND BioSECURE



RISK MAPS

[Dengue Map](#)

[Zika Map](#)

DISEASE OUTBREAKS

To find out where the latest disease outbreaks have occurred visit:

[World Health Organization](#)

[Public Health Surveillance](#) - Institute of Environmental Science and Research (ESR) -

Information for New Zealand Public Health Action
