



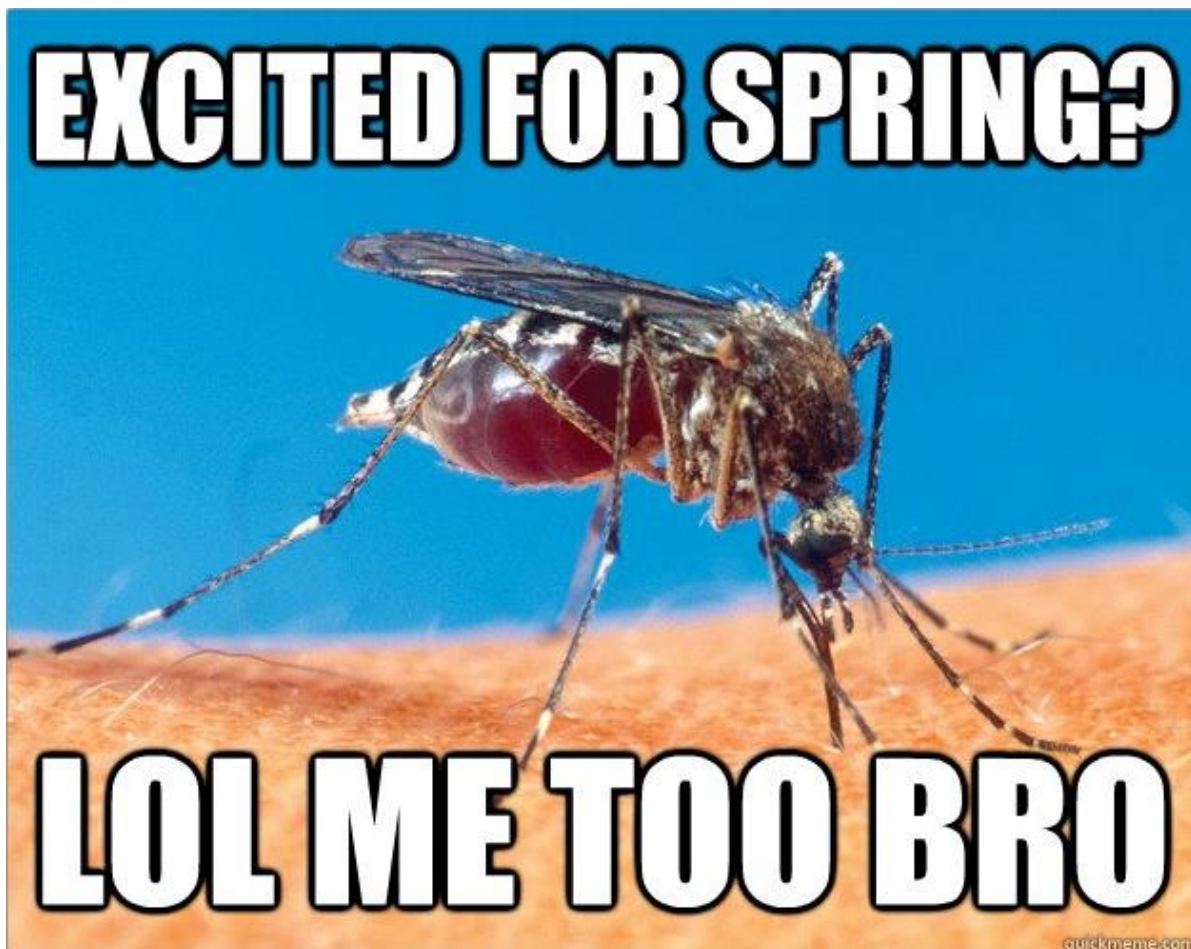
BORDER HEALTH NEWSLETTER – August 2017

WELCOME!

Kia Ora Koutou, even though the low temperatures are lingering, the days are getting longer, the plants are flowering and the birds are preparing their nests. The spring is in the air! Are you all ready for next mosquito season? If your regulator has not been checked this year then now is the perfect moment to contact us and have it done (taxonomy@nzbiosecure.net.nz).

On the 20th of August, the World Mosquito day has been celebrated! Scroll down and find out why.

A BITE OF HUMOUR



<https://nz.pinterest.com/pin/497577458801153308/>

SURVEILLANCE RESULTS

During August 922 samples were collected by staff from the 12 DHBs with 68 positives, which is a significant increase from last month. Just 9 adults have been found this month, that is 90% less than last year. This is related to the reduction in adult traps over the winter period in Northland this year as high numbers were caught last year. The total larvae number have increased 33% compared to last year this month (Table 1).

This month the **endemic species** are represented only by *Culex pervigilans* and *Opifex fuscus*. *Cx. pervigilans* larvae have increased 95% compared to last year (Table 1) and 27% compared to last month this year. *O. fuscus* larvae numbers remain the same this year (Table 1) and have increased 18% compared to last month this year. *Cx. pervigilans* adult's numbers remained the same this year in comparison to last year (Table 1) and have increased 50% compared to last month this year.

Please notice that *Aedes australis* is not an endemic species as have been indicated in the July news later.

The **introduced species** *Aedes notoscriptus* larvae have increased 31% compared to last year (Table 1) and 45% compared to last month this year. Meanwhile, *Culex quinquefasciatus* larva numbers have decreased 35% compared to last year (Table 1) and 91% compared to last month this year. *Cx. quinquefasciatus* adults have increased 80% this year in comparison with the previous year (Table 1).

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

Species (common name)	Adults		Larvae	
	Aug. 17	Aug. 16	Aug. 17	Aug. 16
<i>Aedes notoscriptus</i> (striped mosquito)	Nil	69	1543	1059
<i>Ae. antipodeus</i> (winter mosquito)	Nil	14	Nil	Nil
<i>Culex pervigilans</i> (vigilant mosquito)	4	4	91	5
<i>Cx. quinquefasciatus</i> (southern house mosquito)	5	1	20	31
<i>Opifex fuscus</i> (rockpool mosquito)	Nil	Nil	22	22
Total	9	88	1676	1222

The figure 1 shows the introduced mosquito larvae numbers in the 12 DHBs during August 2016 and August 2017. *Aedes notoscriptus* larvae were not recorded in Hawkes Bay and Mid Central where they were present last year. In contrast, this year *Ae. notoscriptus* larvae were recorded at Waikato and Tairāwhiti, where they were absent this month last year, while in Taranaki, Pacific and Hutt Valley the number decreased and in Auckland, Nelson-Marlborough and Northland the number increased (Figure 1).

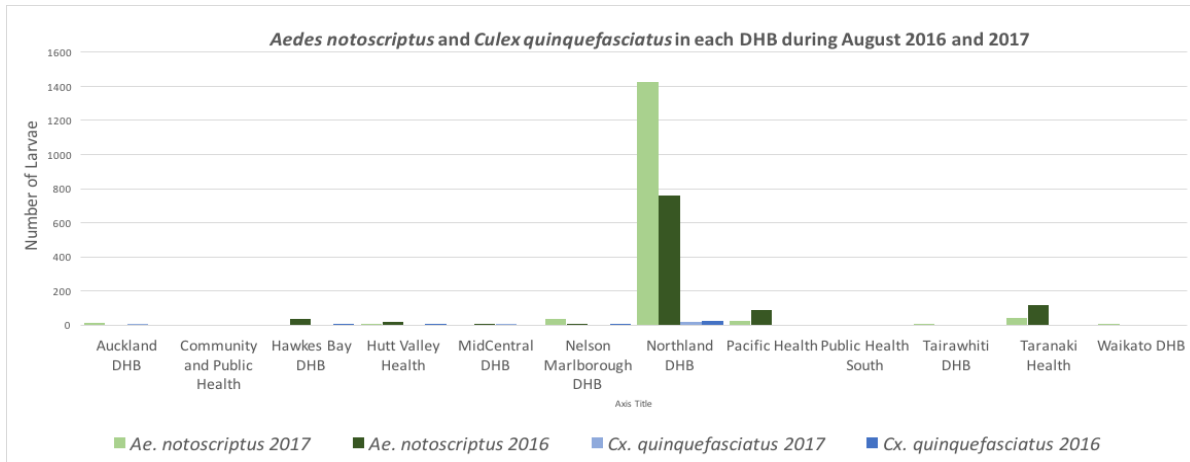


Figure 1. Comparison between introduced mosquitoes sampled in each DHB during August 2016 and August 2017.

Culex quinquefasciatus have shown a decrease in Northland and are currently absent from Hawkes Bay and Hutt Valley where they were present last year. In contrast, this year *Cx. quinquefasciatus* larvae were recorded at Auckland and MidCentral, where they were absent this month last year, while in the rest of the DHB’s there were no *Cx. quinquefasciatus* samples (Figure 1).

Figure 2 shows the relative number of mosquitos sampled this month in each DHB.

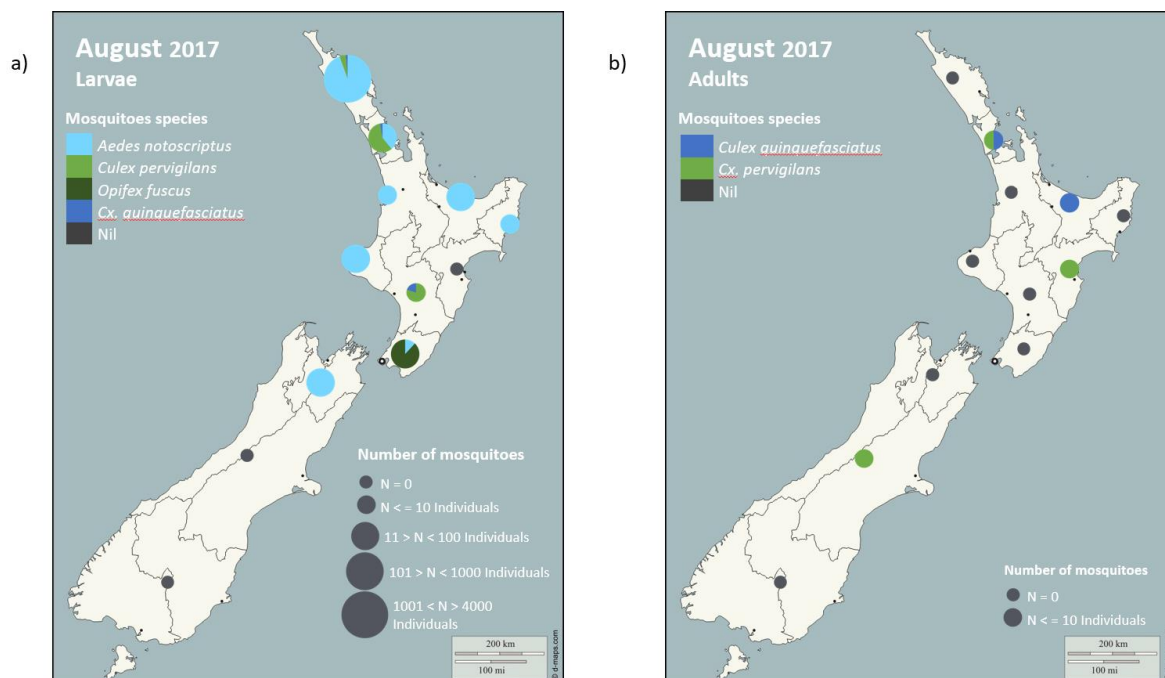


Figure 2. Mosquitoes larvae (a) and adults (b) program in August 2017.

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



INCURSIONS AND INTERCEPTIONS

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

Table 2. Suspected interceptions during August 2017			
Date	Species	Location	Circumstances
11	1 male <i>Anopheles</i> + 1 non-mosquito Chironomidae	Berth 11 on Vessel, Mt Maunganui. Tauranga	Found dead on the window sill on Officers Mess.
17	1 female <i>Aedes aegypti</i>	Auckland Airport, ITB, Baggage Hall	Found dead in a surveillance Dominator 2 trap

NEWS ARTICLES FROM AROUND THE WORLD

World Mosquito day



Anopheles sp. having a blood meal. This image has been taken [from](#).

August 20th was World Mosquito Day, this day marks the historic discovery by British doctor Sir Ronald Ross in 1897 that female *Anopheles* mosquitoes transmit malaria between humans. This finding provided the foundation for scientists across the world to better understand the deadly role of mosquitoes in disease transmission and devise effective innovative interventions. [Read more](#).

Australian government to commit AUD\$7.7M to help curb mosquito borne diseases in Fiji and Pacific

The program uses a naturally occurring bacteria called “Wolbachia” to protect against harmful mosquito borne diseases such as Dengue, Zika and Chikungunya. This program will be piloted in Fiji, Kiribati and Vanuatu. [Read more](#).



Scientists develop new attract-and-kill technique to eradicate mosquitoes



Aedes albopictus feeding on a flower. This image has been taken [from](#).

Mosquitoes aren't just blood thirsty. They also have a sweet tooth, relying on plant nectar to get the sugar they need to survive. Exploiting this weakness, scientists have developed an environmentally friendly eradication method. The new, inexpensive technique tricks these annoying pests into gorging themselves on insecticides laced with a concoction that mimics the sweet-smelling scents and aromas that they find irresistible. [Read more](#).

Health implications of tropical storm Harvey



A street in Houston after Harvey.

Tropical storm Harvey continues to threaten lives in Houston, where officials are focused on evacuating hospitals and securing life-saving emergency transportation, knowing they face long-term health threats. Standing water left after the flood recedes will leave an ideal breeding ground for mosquitoes – which were already a pest in Houston. [Read more](#).



ASU Biodesign researchers develop more potent, safer plant-based Zika vaccine

ASU Biodesign Institute scientist Qiang "Shawn" Chen has led his research team to develop the world's first plant-based Zika vaccine that could be more potent, safer and cheaper to produce than any other efforts to date. [Read more.](#)

Brazil May Face a New Threat, This Time From Biting Midges



Brazil, which has recently suffered serious outbreaks of Zika virus and yellow fever and now faces a new threat, according to reports from local scientists: Oropouche fever. [Read more.](#)

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