

BORDER HEALTH NEWSLETTER - DECEMBER 2017

WELCOME!

Kia Ora Koutou

Have you been wondering what the mosquitoes have been up to around the country this year? Scroll down and have a look at the figures and find out the busiest mozzie month in 2017 and how the numbers change throughout the year.

We would also like to share with you all the best interception mozzie picture of the month. In the news, a dengue vaccine is now available on the market. However, in some cases, it can be as dangerous as the virus itself. On the other hand, the Zika virus seems to be having a break.



SURVEILLANCE

During December 1379 samples were collected by staff from the 12 DHBs with 329 positive samples. This included 89 adult samples and 240 larval samples, leading to a total of 1024 Adults and 9010 larvae identified over the past month (Table 1).

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

Species (common name)	Adults		Larvae	
	Dec. 17	Dec. 16	Dec. 17	Dec. 16
<i>Aedes notoscriptus</i> (striped mosquito)	226	634	2557	800
<i>Ae. antipodeus</i> (winter mosquito)	3	20	0	0
<i>Ae. australis</i> (saltwater mosquito)	0	1	0	0
<i>Ae. sualbiostris</i>	0	0	1	0
<i>Culex pervigilans</i> (vigilant mosquito)	179	19	4735	2412
<i>Cx. quinquefasciatus</i> (southern house mosquito)	588	510	1668	1821
<i>Coquillettidia iracunda</i>	24	81	0	0
<i>Coq. tenuipalpis</i>	4	0	0	0
<i>Opifex fuscus</i> (rockpool mosquito)	0	1	49	50
Total	1024	1266	9010	5083

Compared to this same month last year, both larvae and adult numbers have shown an increase (35% and 17% respectively, Table 1).

The endemic species this month are represented by *Culex pervigilans*, *Opifex fuscus*, *Aedes antipodeus*, *Ae. subalbirostris*, *Coquillettidia iracunda* and *Coq. tenuipalpis*. Nil *Ae. australis* has been found this month in contrast to this month last year. Endemic larvae have shown a significant increase (49%) in December this year compared to last year (Table 1) and have also shown a significant increase in comparison to the number in the previous month (39% more than in November) of this year.

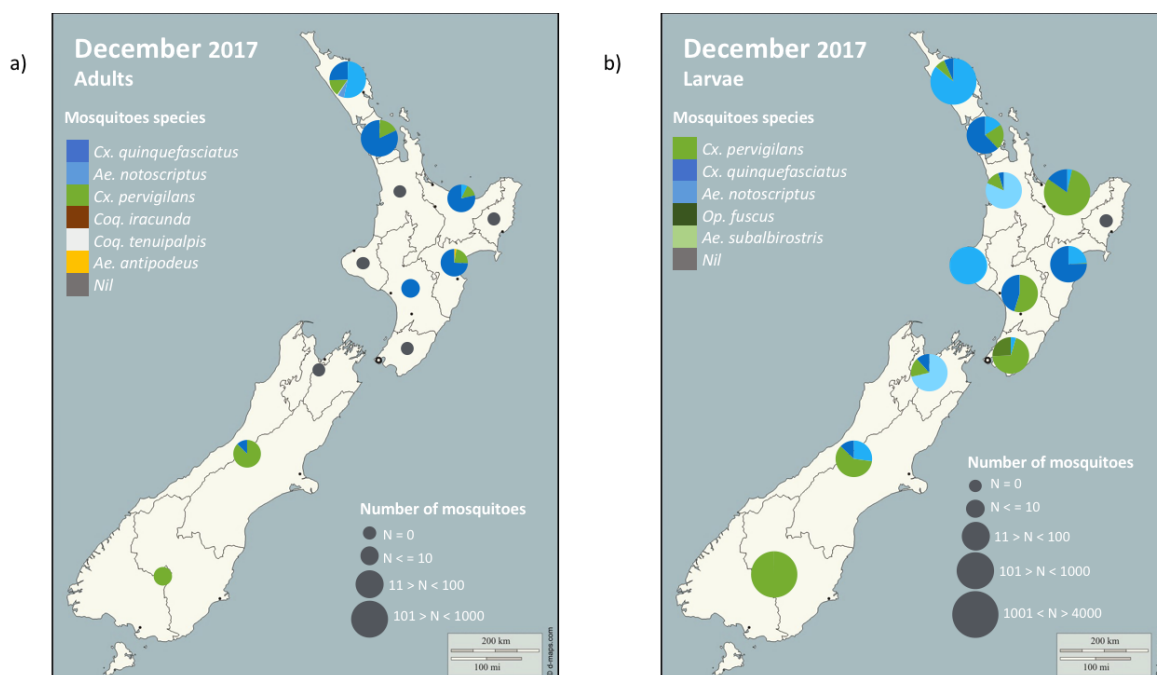


Figure 1. Mosquitoes adults (a) and larvae (b) sampled during the December 2017 surveillance period.

* The mosquito species are listed in order from the most numerous to the least numerous.

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

As expected *Ae. notoscriptus* and *Culex quinquefasciatus* have not been recorded this month, this year and last year in Public Health South, with routine sampling showing that it has not yet established populations in this area (Figure 2).

The introduced species for November are represented by *Aedes notoscriptus*, *Ae. australis* and *Culex quinquefasciatus*.

Larvae numbers for the most representative introduced mosquitoes, have shown different patterns this month. *Aedes notoscriptus* has shown a 3% decrease, while in contrast *Culex quinquefasciatus* numbers have increase an 80% this month compared to last month (Table 1).

In total 8 mosquito species have been found this month, that is one less than last month. Northland DHB was the most specious DHB this month with 6 mosquito species (one less than last month), followed by Auckland DHB (5 species) and Hawkes Bay DHB with (4 species). In contrast, Tairawhiti DHB has detected 1 mosquito species this month (Figure 1). Toi Te Ora - PH is the DHB with the highest numbers of larvae (2631) followed by Northland DHB (2061) and Public Health South (1376). Auckland is the DHB with the highest numbers adults (532) followed by Northland DHB (Figure 1).

Aedes notoscriptus larval numbers have shown an increase in 7 DHBs from this same month last year (Auckland, Community and Public Health, Hawkes Bay, Nelson Marlborough, Taranaki Health, Northland and Toi Te Ora - PH), and shown a decrease in 2 DHBs (Hutt Valley Health and Waikato, Figure 2). *Ae. notoscriptus* was not detected in Tairawhiti and MidCentral this month in comparison with this same month last year (Figure 2).

Culex quinquefasciatus larval numbers have shown an increase in 5 DHBs from this same month last year (Auckland, MidCentral, Nelson Marlborough, Waikato, Northland), and shown a decrease in 2 DHBs (Hawkes Bay, Toi Te Ora - PH, Figure 2). *Cx. quinquefasciatus* was not detected in Tairawhiti and Hutt Valley Health this month in comparison with this same month last year, and is now present in Community and Public Health (Figure 2).

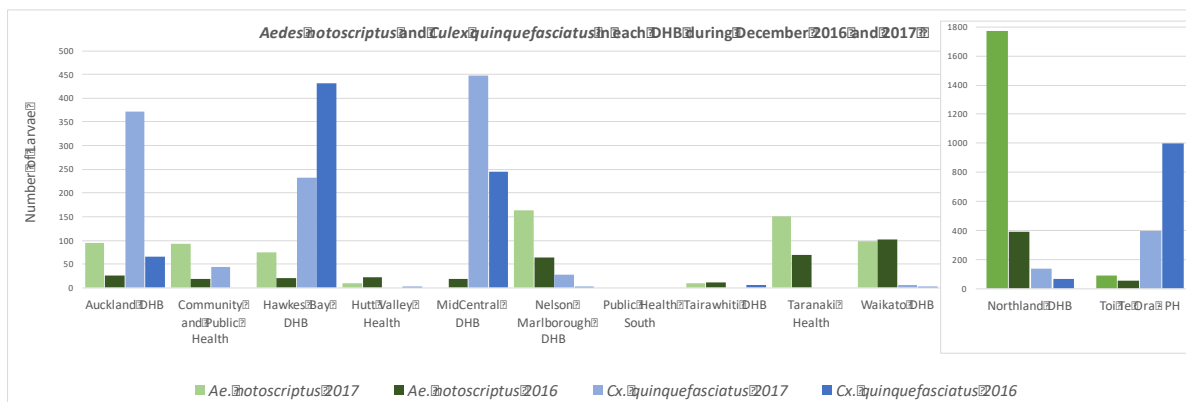


Figure 2. Comparison between introduced mosquitoes sampled in each DHB during December 2016 and December 2017.

* Please note the different scale for the number of larvae present in Northland DHB and Toi Te Ora – PH in comparison to the other DHBs.

MOZZIE NUMBERS OF THE YEAR

During 2017, a total of 82245 larvae and 8691 adults were identified in the NZBioSecure Entomology Laboratory (Figures 3 and 4). A total of 11 species of mosquitoes were detected this year with *Culex quinquefasciatus* the best represented with 52% of the larvae and 56% of the adults, followed by *Aedes notoscriptus* with 23% of the larvae and 31% of the adults. The least represented mosquitoes were *Culiseta tonnoiri* (2 individuals) and *Aedes subalbirostris* (3 individuals).

The highest number of mosquitoes (larvae plus adults) was registered in March (24046) followed by February (22512). The highest number of species was recorded in March (10) and the least in August.

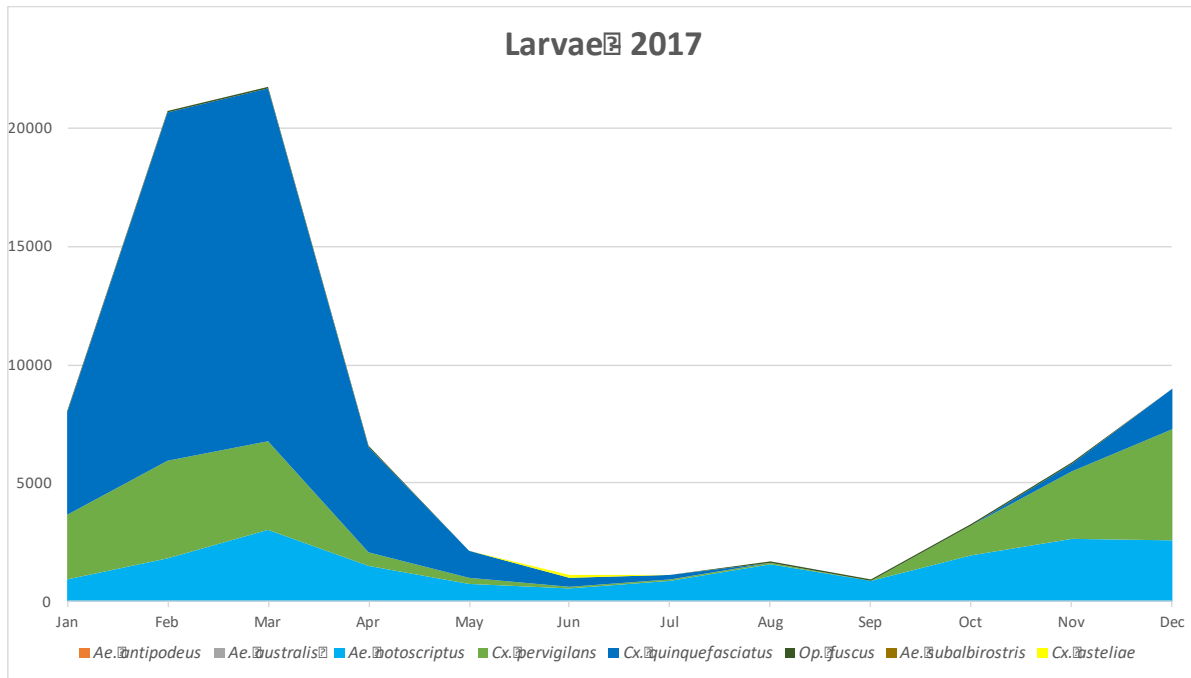


Figure 3. Variation in mosquito larvae numbers thought 2017.

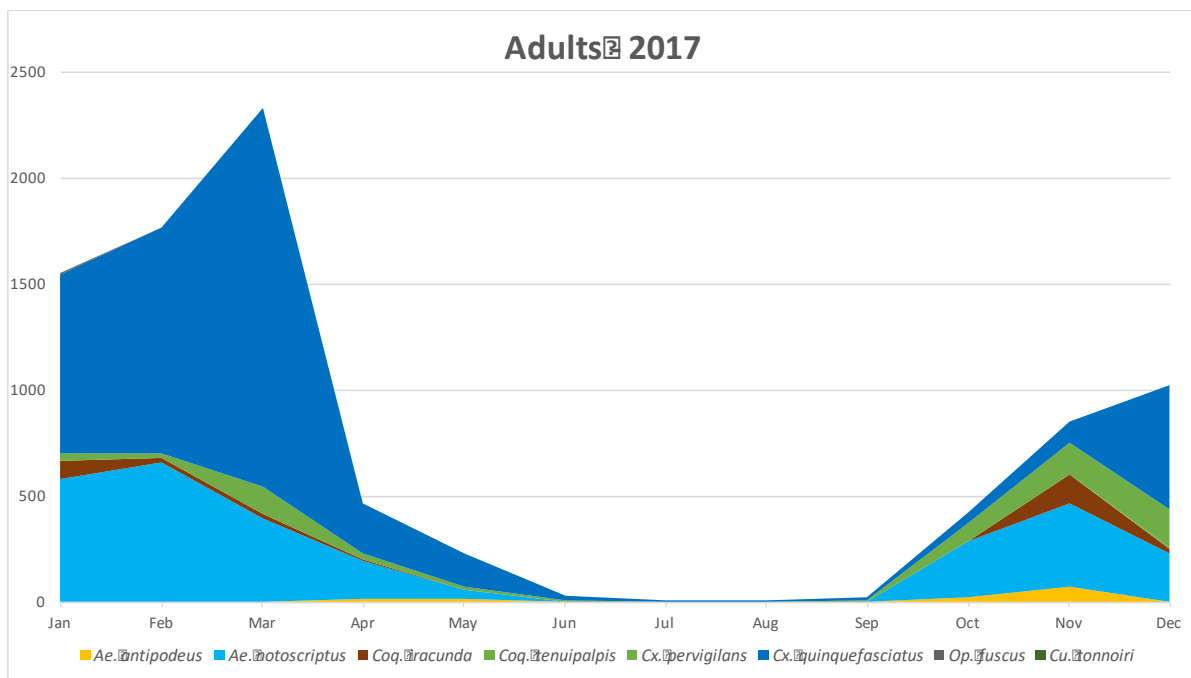


Figure 4. Variation in mosquito adult numbers thought 2017.

INCURSIONS AND INTERCEPTIONS

During December, 10 suspected interceptions have been recorded (Table 2). Please note that the interceptions of live unwanted mosquitoes are highlighted in red. Exotic species in general are highlighted in light blue.

Date	Species	Location	Circumstances
05/12/2017	1 Female <i>Culex quinquefasciatus</i>	Fresh Max NZ transitional facility, Cabine Road Mt Wellington, Auckland.	Found alive flying inside MPI inspection room while inspecting a water melon consignment from Australia.
08/12/2017	1 <i>Aedes tremulus</i> larva (4th instar), 1 <i>Aedes notoscriptus</i> larva (4th instar), 1 pupal exuvia	Peter Fletcher Transport limited. 160 Waterloo Road Christchurch.	Found by MPI, alive in used tyres in a shipment labelled as earth moving equipment/parts.
13/12/2017	1 Male <i>Culex quinquefasciatus</i>	Freshmax NZ transitional facility, Cabine road Mt Wellington Auckland.	Found alive by MPI in the searching room while devanning a banana consignment from Mexico.
15/12/2017	5 <i>Aedes aegypti</i> larvae (3rd instar)	ITB Auckland International Airport.	Found alive during routine surveillance in Tyre trap 17 located inside the baggage claim area.
22/12/2017	1 Male <i>Aedes aegypti</i>	ITB Auckland International Airport.	Found in Dominator 1 during enhanced surveillance.
23/12/2017	2 <i>Aedes aegypti</i> larvae (3rd instar)	ITB Auckland International Airport.	Found in Tyre trap 16 during enhanced surveillance.
23/12/2017	1 Female <i>Aedes aegypti</i>	ITB Auckland International Airport.	Found in BG Sentinel trap 6 during enhanced surveillance.
26/12/2017	1 Male <i>Culex quinquefasciatus</i>	ITB Auckland International Airport.	Found alive next to MPI X-ray machine in MPI search area.
26/12/2017	1 Female <i>Culex quinquefasciatus</i>	ITB Auckland International Airport.	Found in an upstairs MPI computer room in ITB.
29/12/2017	3 <i>Aedes aegypti</i> Larvae (3rd instar)	ITB Auckland International Airport.	Found during enhanced surveillance in Tyre trap 16 located next to elevated customs desk.

NEWS ARTICLES FROM AROUND THE WORLD

As Zika fades from public consciousness, scientists continue to pursue the virus

While the Zika virus mostly faded from the public's consciousness last year, it's still a hot topic among scientists. After Zika emerged in the Western Hemisphere, it shook the Americas as reports of infections and devastating birth defects swept through Brazil and Colombia, eventually reaching the United States in 2016. In a welcome turn, the number of Zika cases in the hemisphere last year dropped dramatically in the hardest-hit areas. But few scientists are naive enough to think we've seen the last of Zika. "The clock is ticking for when we will see another outbreak," says Andrew Haddow, a medical entomologist at the U.S. Army Medical Research Institute of Infectious Diseases in Frederick, Md. [Read more.](#)



Dengue and Yellow fever outbreak ALERT issued as deadly mosquito found on Canary Islands



Aedes mosquitoes have been spotted in The Canary Islands

The mosquito that spreads the potentially deadly dengue and yellow fever viruses has been discovered in the Canary Islands at the start of its high season on the holiday island of Fuerteventura. The insect - the *Aedes aegypti* - can also spread other viruses common in tropical and sub-tropical areas including Zika fever, Mayaro and Chikungunya which has no cure and like the other viruses associated with the mosquito causes fever and severe joint pain. Regional officials say “some specimens” have been found and they are trying to locate possible breeding grounds and set traps in the area to try to eradicate the problem and make sure they don’t settle on the island. [Read more.](#)

Experts call for use of Sanofi’s dengue vaccine to be halted in most cases



Dengvaxia, the Dengue vaccine.

The use of the world’s first dengue vaccine should be temporarily suspended except in limited circumstances because of concerns that it could put some people at heightened risk of severe disease, according to prominent public health experts. [Read more.](#)

9,277 malaria cases registered in 2017

While civic authorities claim having intensified efforts to curb vector-borne diseases, data of AMC’s health department shows that in 2017 alone, 9,277 people in the city suffered from malaria. These are only conservative estimates and the actual numbers may be higher



because AMC only seeks data from civic body-run hospitals, urban health centres and select private hospitals. [Read more.](#)

Dengue is back – Official confirms



Aedes sp.

Dengue fever cases have been confirmed in the British Virgin Islands. [Read more.](#)

THE BEST INTERCEPTION MOZZIE PICTURE OF THE MONTH



Female *Culex quinquefasciatus* detected alive flying inside MPI inspection room while inspecting a water melon consignment from Australia. At Freshmax NZ Ltd transitional facility, 113A Carbine Road, Mt Wellington, Auckland. 5.12.17.

Characteristics of a good Mozzie picture:

- Picture is in focus
- The light allows the viewer to interpret the different colours.
- All body parts are distinguishable.



NEW ZEALAND BioSECURE



About the photographer:

Sioeli Takataka is a Health Protection Officer working in the Auckland Regional Public Health Service.

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.
