New Zealand BioSecure

BORDER HEALTH NEWSLETTER

MAY 2026

NAU MAI, HAERE MAI - WELCOME!

Kia ora koutou katoa,

This month was Pink Shirt Day, a day to work together to stop bulling by celebrating diversity and promoting kindness and inclusiveness. Click on the picture below to learn more about it.

Can you feel the cooler weather? Well mozzies can feel it too! This is why June is the perfect time of the year to send your Light Traps and Regulators to the lab for servicing and calibration.

In the news this month, learn why Google's parent company, Alphabet, is seeking EPA approval to release up to 32 million laboratory-reared mosquitoes across California and Florida. Look at the current dengue situation in the Pacific: while the Cook Islands is now dengue-free, outbreaks continue to plague Tonga, Samoa, and New Caledonia. Read about what experts have to say about mosquito total eradication programmes and their effects in the environment. Find out about a recent study that reveals mosquitoes can actually learn to associate the smell of DEET with food – but fear not! DEET is still one of the best and recommended repellents available. Join in the celebrations with Auckland HPOs after the confirmation of no further exotic *Aedes aegypti* finds at Ports of Auckland.

Finally, scroll down and learn how to take a good mosquito larvae photo. Great capture Aaron Guanlao!

Happy reading!

SURVEILLANCE

During May a total of 1412 routine and enhanced surveillance, and various survey samples were collected by staff from 12 PHUs (Figure 1). The samples included 130 positive larval samples and 87 positive adult samples, leading to a total of 2614 larvae and 368 adults identified over the past month (Table 1).

Culex quinquefasciatus was the dominant larval species this month (1477 specimens) and *Aedes notoscriptus* in May last year (1455 specimens). For adults, *Culex quinquefasciatus* was the dominant species this month and May 2025 (216 and 173 specimens respectively) (Table 1).

In total, seven mosquito species have been collected this month (Table 1), which is the one less than last month. Please note that *Culex* sp., *Culex* sp. showing mixed features and *Culex pipiens* complex sp. are not included in this count as they are not considered species *per se*.

Compared to the previous month, the total numbers of larvae and adults have shown a decrease (38% and 46% respectively).

Compared to this same month last year, the total numbers of larvae have shown a decrease (17%) while the number of adults has shown an increase (55%) (Table 1).

Table 1. Adult and larvae sampled by the New Zealand surveillance program during May 2025 & 2026

Species (common name)	Adults		Larvae	
	May 26	May 25	May 26	MAy 25
Aedes antipodeus (Winter mosquito)	8	1	-	-
Aedes notoscriptus (Striped mosquito)	16	17	701	1455
Culex sp.	9	21	1	-
Culex asteliae (No common name)	-	-	5	3
Culex pervigilans (Vigilant mosquito)	16	6	113	237
Culex pipiens sp. (Common house mosquito)	38	12	94	8
Culex pipiens complex sp.	50	-	167	-
Culex sp. showing mixed features	15	7	32	141
Culex quinquefasciatus (Southern house mosquito)	216	173	1477	1203
Opifex fuscus (Salt pool mosquito)	-	-	24	110
TOTAL	**368**	**237**	**2614**	**3157**

The highest number of larvae sampled this month (all instars included) was obtained in Northland (1587 larvae) followed by Bay of Plenty (646 larvae). Considering only third and fourth instars, the highest number of larvae sampled this month was obtained by Northland (1151 larvae) followed by Bay of Plenty (77 larvae) (Figure 1).

Nil *Culex quinquefasciatus*, a member of the *Culex pipiens* complex, have been recorded for May in Southland (Figures 1 and 2), however in May 2025 both *Culex quinquefasciatus* adults and *Culex* sp. larvae showing mixed features were recorded. In May 2025 and 2026 nil *Aedes notoscriptus* larvae or adults were collected in Southland.

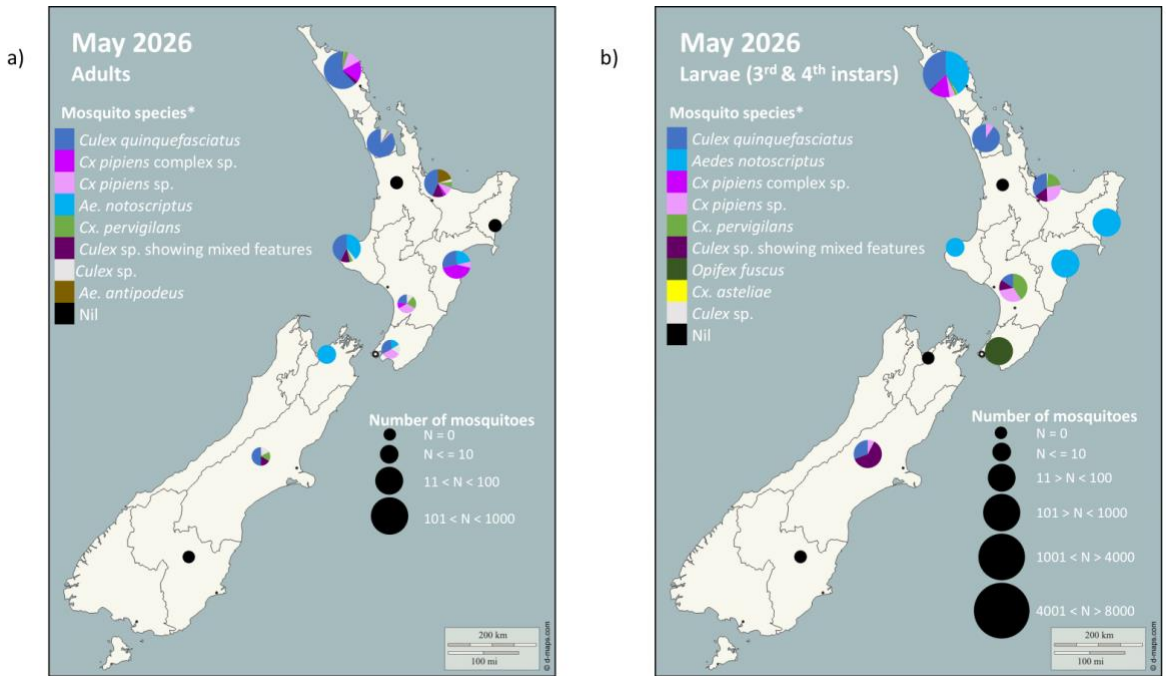

Figure 1. Total mosquito adults (a) and 3rd and 4th instar larvae (b) sampled in New Zealand during May 2026 surveillance period.
Please note that the markers represent the PHUs and not the specific sites where the samples have been taken.
* The mosquito species are listed in order from the most abundant to the least abundant. *Culex* sp. refers to adult or larvae that are damaged or cannot be identified to the species level.

Figure 2 shows the current month 2025-2026 evolution of adult and larval specimens of introduced species collected including *Aedes notoscriptus*, *Aedes australis* and members of the *Culex pipiens* complex.

The largest increase for *Culex quinquefasciatus* adults was seen in Northland with an increase of 90 specimens compared to last year. The largest decrease was seen in Taranaki with a decrease of 18 adult specimens, closely followed by Hawke's Bay with 16 adult specimens. For third and fourth-instar *Culex quinquefasciatus* larvae, a large increase was noted in Northland where the numbers increased by 274. The largest decrease occurred in Taranaki with 263 larval specimens less than May 2025.

An increase *Culex pipiens* sp., *Culex pipiens* complex sp. and *Culex* sp. showing mixed features adults and larvae has occurred in Northland with the largest increase being in both adults and larvae of *Culex pipiens* complex sp. (42 and 167 respectively). The largest decrease within this group occurred in the Bay of Plenty with 99 fewer *Culex* sp. showing mixed features collected.

The largest increase for *Aedes notoscriptus* adults was seen in Taranaki (5 more specimens compared to last year). The largest decrease was seen in Nelson/Marlborough with a decrease of 4 specimens. For *Aedes notoscriptus* larvae the largest increase was in Hawke's Bay (69 specimens), and largest decrease was in Northland (796 specimens).

No *Aedes australis* larvae or adults were collected in Southland in May this year or last year despite being present.

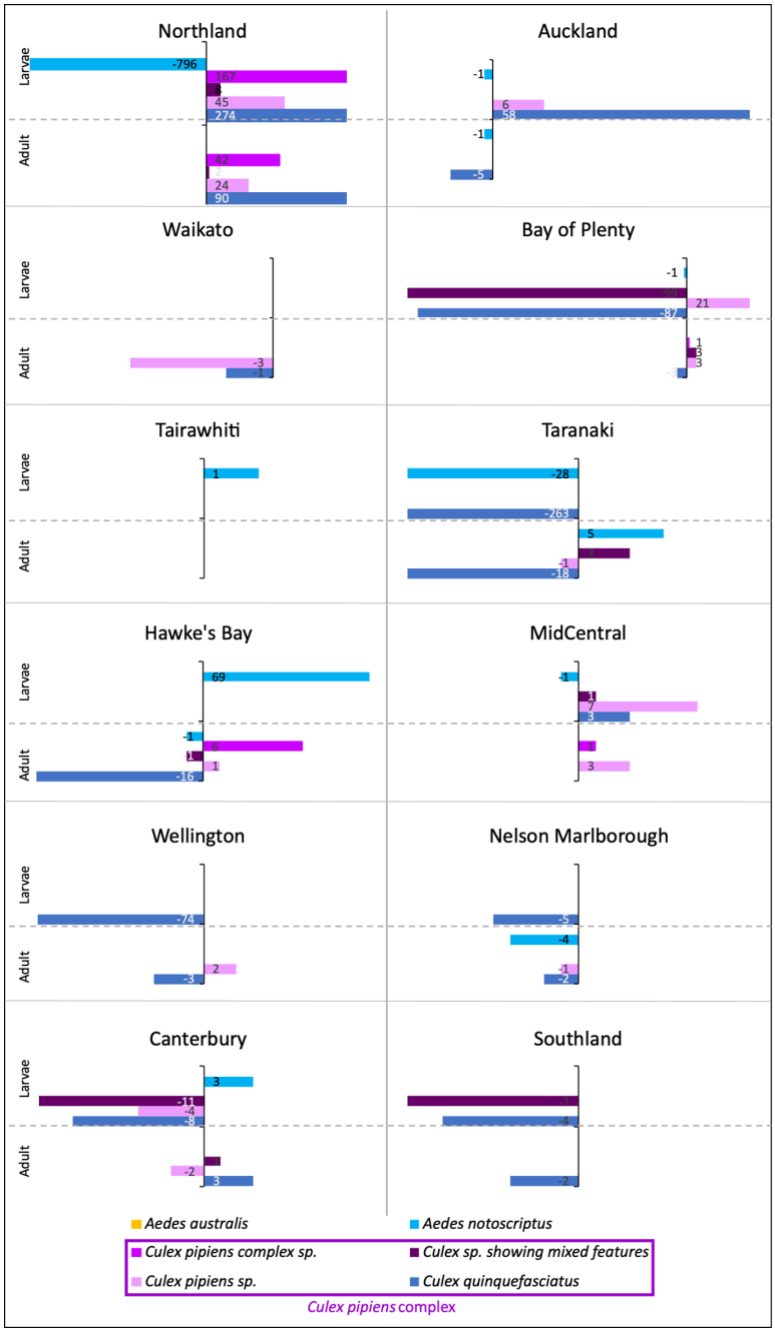

Figure 2. Comparison between the number of introduced mosquito species sampled in each PHU during May 2025 and 2026.

*Please note the different scale is different for each PHU. Species in the purple box are all members of the *Culex pipiens* complex. Larval ID is based on third and fourth instar only for species in the *Culex pipiens* complex while *Aedes notoscriptus* and *Aedes australis* are all larval stages.

Disclaimer: Please note that the identification and reporting processes for adult male and female mosquitoes, as well as first and second-instar larvae of *Culex* species found in New Zealand, were adjusted since the start of 2026. To identify males of the *Culex pipiens* complex to species level, the genitalia must be processed — a technique that is highly time-consuming. For this reason, the NZB laboratory identified only a sub-sample of male mosquitoes from each collection to species level. The remaining males in each sample were identified using the palps and classified as either *Culex pipiens* complex sp. or any other endemic *Culex* species (*Culex pervigilans, Culex asteliae* or *Culex rotoruae*). Females were placed in the *Culex pipiens* complex when one or more key identification features were missing (for example a wing, abdominal scales, or the abdomen itself). *Culex* larvae in the first or second instar are not always identifiable to species level; when this happens, these are reported as *Culex* sp. The term *Culex* sp. is also used when specimens are too damaged to be identified beyond the genus level.

INCURSIONS AND INTERCEPTIONS

During May, HPOs responded to six suspected interceptions (Table 2), including one unwanted mosquito (in red), two exotic mosquitoes not listed in the unwanted list (in blue), two locally occurring mosquitoes form exotic origin (in green) and one interception involving non-mosquitoes (in black).

Table 2. Suspected interceptions during May 2026

Date	Species	Location	Circumstances
04.05.2026	1x Female *Aedes aegypti*	Auckland International Airport	Found during ID of routine surveillance samples. Specimen was caught in NZB_AIAL_BG26 at Auckland International Airport.
05.05.2026	1x Female *Culex quinquefasciatus*	Briscoe Group (Transitional Facility)	Found dead in a container of tea towels manufactured in India, while the container originated in Singapore.
13.05.2026	1x Male *Culex quinquefasciatus*	Mainfreight Air and Ocean Ltd (Transitional Facility)	Found alive with various other insects in fresh taro from Fiji.
19.05.2026	Various non-mosquitoes (woodlice and black fungus gnat)	Water Supply Products (WSP) Ltd (Transitional Facility)	Suspected mosquito larvae found dead in a container of water supply products from Israel.
28.05.2026	1x Male *Armigeres subalbatus*	Sipcam (Transitional Facility)	Found dead in Hi-Cane plant treatment used in kiwifruit (chemicals).
29.05.2026	1x Male *Uranotaenia* sp.	Hellmann Worldwide logistic -> Healthy and fresh produce (Transitional Facilities)	Found dead in a carton of capsicum. Devanned in Hellmann TF and found at Healthy and fresh produce.

NEWS ARTICLES FROM AROUND THE WORLD

No further exotic mosquitoes detected in Auckland city centre

Health New Zealand has confirmed that no further *Aedes aegypti* mosquitoes have been detected following 4 weeks of heightened surveillance in the city centre. On 31 March, the National Public Health Service identified exotic *Aedes aegypti* mosquito larvae at a routine surveillance trap at Queens Wharf, Auckland. This species is not normally found in New Zealand and can transmit serious diseases such as: dengue fever, Zika, yellow fever and Chikungunya. Read more.

Mosquitoes may be smarter than we thought when it comes to DEET

A new study suggests mosquitoes may be able to learn to associate the smell of DEET with food and, in some cases, even become attracted to the insect repellent. The research, published in the Journal of Experimental Biology, found yellow fever mosquitoes could be trained to connect the smell of DEET with a reward, such as blood or sugar. Vinauger, the co-author of the study, explains that the findings do not mean people should stop using DEET, describing it as “highly effective” and “the gold standard of repellents.” “Our study presents very specific laboratory experimental conditions that are unlikely to occur in the real world, in which mosquitoes started feeding and were then exposed to DEET,” he explained. Read more.

What if we killed all mosquitoes?

As the world’s deadliest animal, mosquitoes kill roughly 760,000 people annually by transmitting destructive diseases like malaria and dengue. However, total eradication isn't necessary; scientists are hyper-targeting just five human-biting species using innovative gene-drive technologies and *Wolbachia* bacterial infections to crash populations or render them harmless. While ecological impacts remain debated, experts emphasize that tech is no magic bullet and must be paired with global healthcare, housing infrastructure, and sustained humanitarian funding. Read more.

Cooks dengue-free, but cases still being reported in other areas of the Pacific

The Cook Islands is now dengue fever free, but other regions of the Pacific are still seeing cases. Cases of dengue fever in Tonga have reached 66. As of Monday, 25 May, two cases were hospitalised - one at Princess Fusipala Hospital in Ha'apai and one at Niu'eiki Hospital in 'Eua. No deaths have been reported in Tonga's current outbreak. Cases are also being reported this month in New Caledonia and Samoa, and in Futuna. Read more here.

Google wants to release 32 million mosquitoes in California and Florida. Here's why

Alphabet, Google's parent company, is seeking approval from the U.S. Environmental Protection Agency (EPA) to release up to 32 million laboratory-reared male mosquitoes across California and Florida. Operating under Alphabet's Debug program, the initiative aims to naturally suppress populations of Aedes aegypti, an invasive insect species responsible for spreading deadly viruses such as dengue fever, yellow fever, and Zika. Read more.

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BEST MOSQUITO PHOTO OF THE MONTH

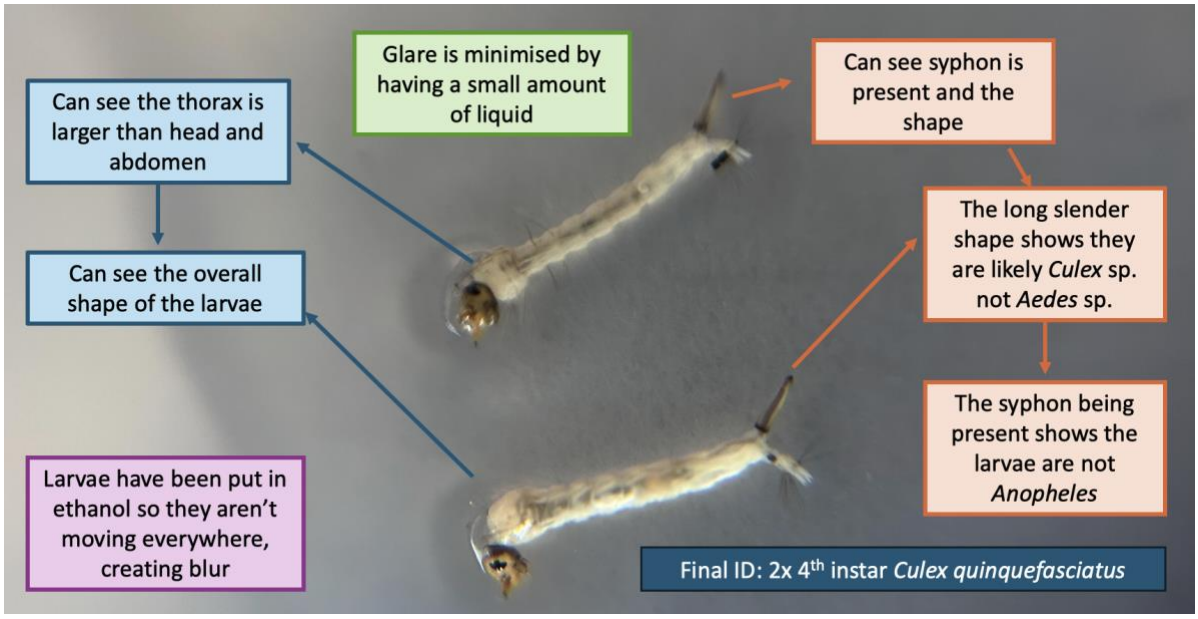

Photo credit: Aaron Guanlao, Northern Region - Auckland

RISK MAPS

Dengue Map – Centres for Disease Control and Prevention
Zika Map – Centres for Disease Control and Prevention
Malaria – Centres for Disease Control and Prevention
Malaria – World Health Organisation

DISEASE OUTBREAKS

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

Epidemic and emerging disease alerts in the Pacific region - Produced by the Pacific Community (SPC) for the Pacific Public Health Surveillance Network (PPHSN).

Disease Outbreak News - World Health Organization.

Communicable disease Dashboards - The New Zealand Institute for Public Health and Forensic Science (PHF Science) - formerly named the Institute of Environmental Science and Research (ESR).

Communicable disease threats report - European Centre for Disease Prevention and Control