



BORDER HEALTH NEWSLETTER

March 2024

NAU MAI, HAERE MAI - WELCOME!

Kia ora koutou katoa,

With temperatures going down around the country, mosquito numbers have been following suit. This also indicates that it is the perfect time of the year to start checking your tyre traps fortnightly in the cooler regions. This month, we have another great selection of mozzie photos for you to admire. However, this time, we are not giving you expert tips on how to take photos; this time, you get to have a go at IDing the samples. Good luck! Finally, have some fun by checking our bite-of-humour section.

In the news this month, read about the surge of dengue cases in the Americas, yellow fever in Africa, and Ross River across the ditch. Also, learn more about the secret life of mosquitoes and their role in the ecosystems. Finally, have a look at the strategies being used in Paris to stop the Asian tiger mosquito from spoiling the Olympic Games 2024.

Happy reading!



SURVEILLANCE

During March a total of 1444 routine surveillance, enhanced surveillance, and various survey samples were collected by staff from 12 PHUs (Figure 1). The samples included 271 positive larval samples and 161 positive adult samples, leading to a total of 18490 larvae and 878 adults identified over the past month (Table 1).

Culex quinquefasciatus is the dominant larval species this month, which is the same as this month last year and the previous month (Table 1).

Compared to this same month last year, the total number of larvae has shown an increase (21%) while adult numbers have shown a decrease (88%) (Table 1).

Compared to the previous month, the total number of larvae has shown a decrease (53%) while adult numbers have shown an increase (5%).

Biosecurity Specialists



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Table 1. Adult and larvae sampled by the New Zealand surveillance program during March 2023 & 2024

Species (common name)	Adults		Larvae	
	Mar 24	Mar 23	Mar 24	Mar 23
<i>Aedes antipodeus</i> (winter mosquito)	-	619	-	-
<i>Ae australis</i> (saltwater mosquito)	1	4	-	19
<i>Ae notoscriptus</i> (striped mosquito)	15	931	5632	3689
<i>Coquillettidia iracunda</i> (no common name)	-	29	-	-
<i>Culex asteliae</i> (no common name)	-	2	3	20
<i>Cx pervigilans</i> (vigilant mosquito)	15	1070	718	1856
<i>Cx quinquefasciatus</i> (southern house mosquito)	792	5013	12079	9679
<i>Culex</i> sp.	53	128	-	-
<i>Culiseta tonnoiri</i> (no common name)	-	33	-	-
<i>Opifex fuscus</i> (rock pool mosquito)	2	-	58	23
Total	878	7829	18490	15286

The highest number of larvae sampled this month was obtained in Northland (6427 larvae) followed by Canterbury (5430 larvae) (Figure 1).

In total, six mosquito species have been collected this month (Table 1), same number as collected last month.

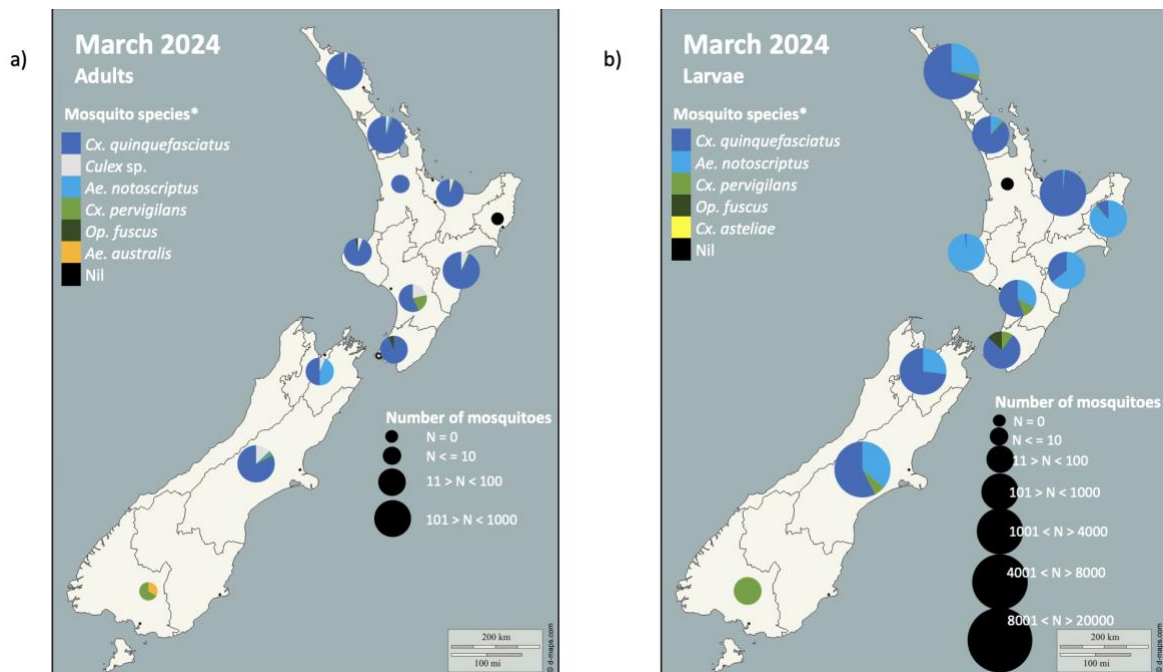


Figure 1. Total mosquito adults (a) and larvae (b) sampled in New Zealand during March 2024 surveillance period. Please note that the markers represent the PHUs and not the specific sites where the samples have been taken.

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

Aedes notoscriptus larval numbers have shown an increase in six PHUs and a decrease in four PHUs from this same month last year (Figure 2).



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Aedes notoscriptus larval numbers have shown an increase in six PHUs and a decrease in four PHUs from this same month last year (Figure 2).

As expected, *Aedes notoscriptus* has not been recorded this month, this year, or last year in Southland (Figures 1 and 2).

Culex quinquefasciatus larval numbers have shown an increase in seven PHUs and a decrease in five PHUs from this same month last year (Figure 2).

Unlike this month last year, *Culex quinquefasciatus* larvae have not been recorded this year in Southland (Figures 1 and 2).

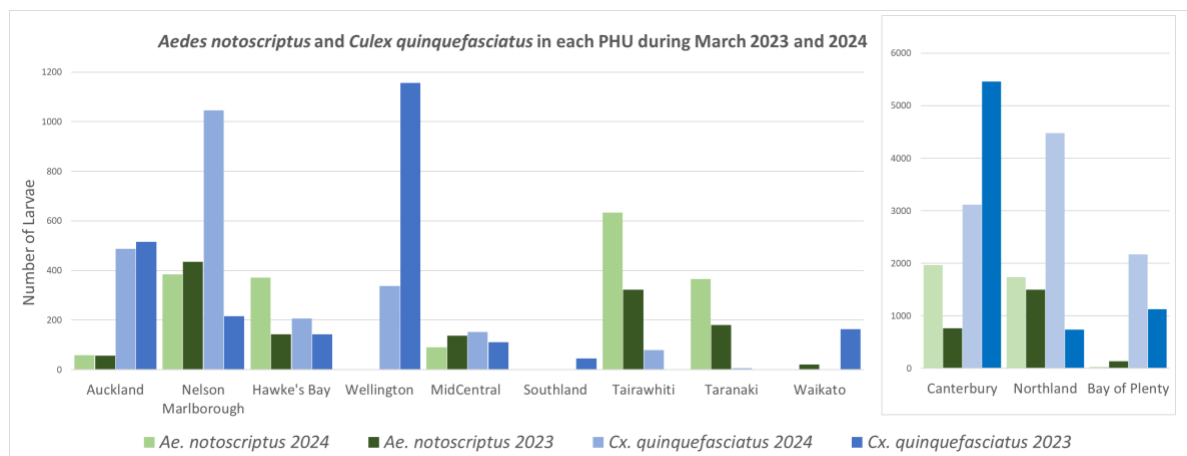


Figure 2. Comparison between introduced mosquito species sampled in each PHS during March 2023 and 2024.

*Please note the different scale for the number of larvae present in Canterbury, Northland and Bay of Plenty in comparison to the other PHSs.

INCURSIONS AND INTERCEPTIONS

During March, HPOs responded to two suspected interceptions of *Culex quinquefasciatus* of likely exotic origin (shown in purple) (Table 2).

Table 2. Suspected interception during March 2024

Date	Species	Location	Circumstances
12.03.2024	8 female and 1 male <i>Culex quinquefasciatus</i>	Ecobags NZ Ltd, East Tamaki, Auckland	Found dead in the back of a container of Jute and cotton bags from Singapore/India.
20.03.2024	1 male <i>Culex quinquefasciatus</i>	MPI inspection area, Ferguson Wharf, Ports of Auckland	Multiple flying insects spotted in an empty container from Sydney. MPI officer use knock down spray then closed container for fumigation. One dead specimen sent to the lab.

NEWS ARTICLES FROM AROUND THE WORLD

Ross River virus: more than 1,500 cases recorded in Queensland as mosquito numbers spike

Holidaymakers planning to head to the regions this Easter long weekend have been warned to cover up to avoid mosquito bites as Ross River virus cases surge, with more than 1,500 cases recorded in Queensland alone. Nine per cent of mosquito traps in Queensland, most of which were located in the state's south-east, have tested positive for the virus, which



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causes swollen and painful joints, fever and rash. The virus is spread from mosquitoes to humans but can't be transmitted from person to person. People usually recover a few weeks after the initial infection but some can experience symptoms for months. Queensland roadside trivia sign 'Question: When is rabbit breeding season?' 'The roadside version of Who Wants To Be A Millionaire': Queensland's trivia signs keeping drivers alert. [Learn more here.](#)

PAHO calls for collective action in response to record increase in dengue cases in the Americas



Washington, DC, March 28, 2024 (PAHO)- The Pan American Health Organization (PAHO) today warned about the surge in dengue cases in the Americas. As of March 26, 2024, over 3.5 million cases and more than 1,000 deaths have been reported in the region. "This is cause for concern, as it represents three times more cases than those reported for the same period in 2023, a record year with more than 4.5 million cases reported in the region," PAHO Director Jarbas Barbosa said during a press briefing. While dengue is on the rise throughout Latin America and the Caribbean, the hardest-hit countries are Brazil (83%), Paraguay (5.3%), and Argentina (3.7%), which account for 92% of cases and 87% of deaths. This increase is attributed to the higher transmission season in the southern hemisphere, when the *Aedes aegypti* mosquito vector of dengue thrives due to warm and rainy weather. [Read more.](#)

Puerto Rico declares public health emergency as dengue cases surge



Puerto Rico has declared a public health emergency due to a surging number of dengue cases. Puerto Rico Secretary of Health Carlos Mellado said the health department has registered 549 cases of dengue so far this year, far exceeding historical numbers. "Our teams have been working on an integrated plan for prevention and control in response to arboviruses and we are going to expand the response implemented," Mellado said in a



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statement, noting that the declaration will allow additional resources that can strengthen surveillance and case management programs. [Learn more about this here.](#)

Hate mosquitoes? Who doesn't? But maybe we shouldn't



A blood-sucking nuisance, mosquitoes are responsible for spreading diseases to hundreds of millions of people every year. True? Yes, says entomologist Lawrence Reeves, but it's also true that mosquitoes primarily feed on plant sugars, not blood. Only female mosquitoes consume blood, and only when they need it to complete their reproductive cycle. Also, it is possible some may serve as pollinators like bees, allowing plants to produce fruit, seeds, and more young plants. The bottom line is that while mosquitoes have a bad rap, the truth is probably much more complex, given how diverse they are and how much we don't know about them. "[Mosquitoes are] this rather nondescript, dark insect that's biting you and making you itch," said Reeves, an assistant professor at the Florida Medical Entomology Lab at the University of Florida, who spoke last week as part of the OEB Seminar Series, hosted by the graduate students at the Department of Organismic and Evolutionary Biology. [Learn more about the fascinating mosquito world here.](#)

Mosquitos and the Olympic Games



For the Rio 2016 Olympics, if the local news wasn't focused on pollution in Guanabara Bay, it was warning about the mosquito-borne virus Zika. And now, France is racing to stop virus-carrying tiger mosquitoes from disrupting the Paris 2024 Olympics. Over the last 20 years, the Asian tiger mosquito has established itself in various parts of Europe, including France, posing a significant health risk by transmitting diseases such as dengue, chikungunya, and Zika. With the Paris Games just four months away, experts warn that a bite from a tiger mosquito could jeopardise an athlete's ability to compete. Didier Fontenille, an entomologist, and expert on vector-borne diseases, said: "If you have dengue, you're not



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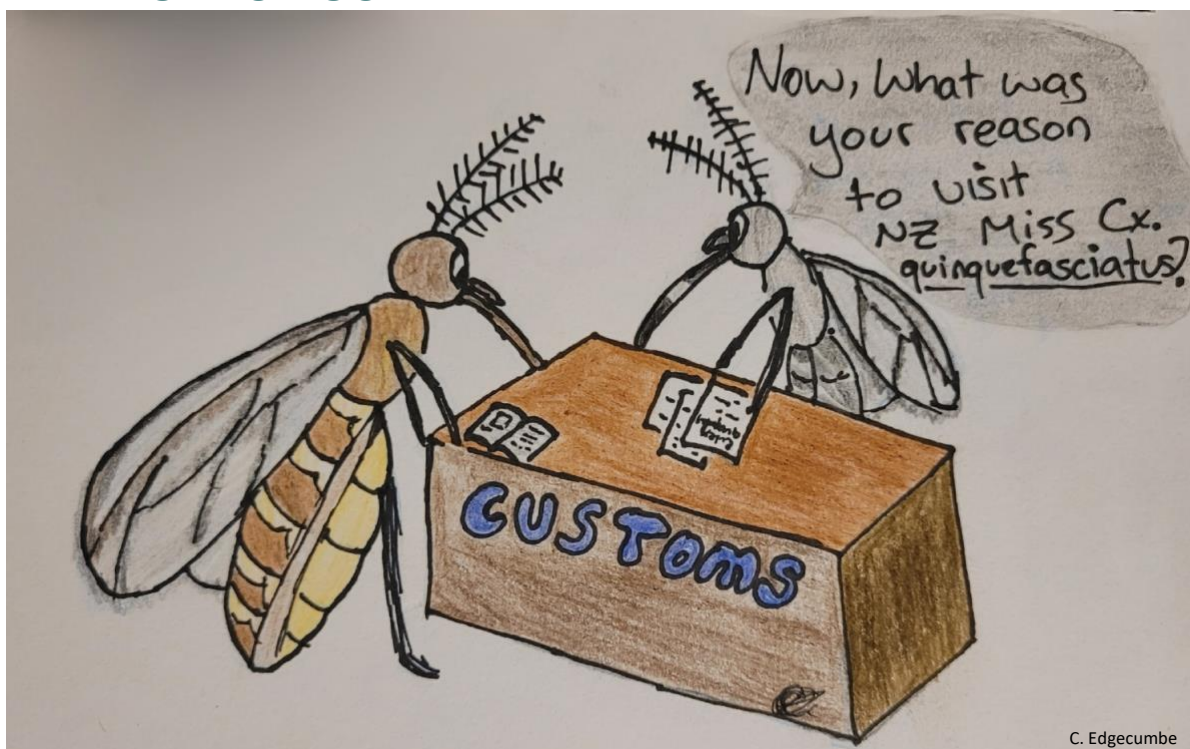
going to jump over any hurdles. The host cities and especially the Olympic Village must be kept mosquito-free.” [Reed more.](#)

Yellow fever – African Region (AFRO)



Since the beginning of 2023, and as of 25 February 2024, a total of 13 countries in the WHO African Region have documented probable and confirmed cases of yellow fever (YF), namely Burkina Faso, Cameroon, the Central African Republic, Chad, Republic of the Congo, Côte d’Ivoire, the Democratic Republic of the Congo (DRC), Guinea, Niger, Nigeria, South Sudan, Togo and Uganda. Preliminary data for 2023 indicate a case fatality rate (CFR) of 11%. While the overall risk at the regional level was re-assessed as moderate and the global risk remains low, active surveillance is required due to the potential for onward transmission through travel and the presence of the competent vector in neighboring regions. The urban proliferation of *Aedes* spp. mosquitoes, which bite during the day, can also significantly amplify transmission risks, particularly in densely populated areas, leading to swift outbreaks. [Learn more here.](#)

A BITE OF HUMOUR



C. Edgcombe

Biosecurity Specialists

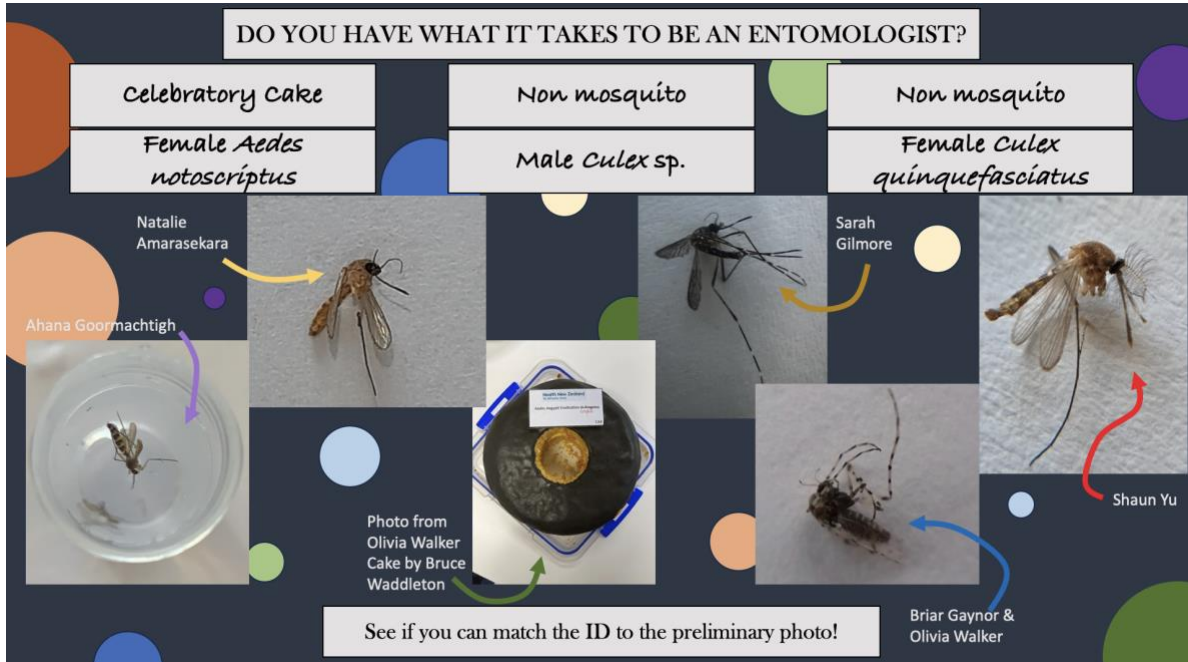


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BEST MOSQUITO PHOTOS OF THE MONTH

DO YOU HAVE WHAT IT TAKES TO BE AN ENTOMOLOGIST?

Celebratory Cake	Non mosquito	Non mosquito
Female <i>Aedes notoscriptus</i>	Male <i>Culex</i> sp.	Female <i>Culex quinquefasciatus</i>



See if you can match the ID to the preliminary photo!

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.

[Public Health Surveillance](#) - Institute of Environmental Science and Research (ESR) - Information for New Zealand Public Health Action.

[Communicable disease threats report](#) - European Centre for Disease Prevention and Control