New Zealand BioSecure

BORDER HEALTH NEWSLETTER

JANUARY 2024

NAU MAI, HAERE MAI - WELCOME!

Kia ora koutou katoa,

We hope that everyone is enjoying the nice weather and avoiding mozzie bites as summer heats up! In this month's newsletter, get some inspiration from our best mozzie photo of the month section with photos sent in by Shaun Maclaren, our colleague at Auckland airport, and Sioeli Takataka, HPO based in Auckland. Also, visit our bite-of-humour section for a bit of fun in this busy period.

In the news this month have a look at Dengue case numbers, in South-East Asia and the Western Pacific, over the course of 2023 as reported by the World Health Organisation (WHO). Read about an increase in Dengue cases in South America that has led to a new vaccine campaign in Brazil, and insect spray shortages in Argentina. See how weeks of rain in Queensland has increased the risk of Ross River Virus, then learn why you should avoid using some alternative insect-repellent products sold in supermarkets and pharmacies. Get an update from the Director of the Department of Immunisation, Vaccines and Biologicals at WHO on the organisation's immunisation goals. And finally, read the research linking mosquitoes to the spread of the flesh-eating bacteria that causes the Buruli ulcer from possums to humans.

Happy reading!

SURVEILLANCE

During January a total of 1381 routine samples were collected by staff from 12 PHUs (Figure 1). The samples included 322 positive larval samples and 111 positive adult samples, leading to a total of 32499 larvae and 774 adults identified over the past month (Table 1).

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

Species (common name)	Adults		Larvae	
	Jan 24	Jan 23	Jan 24	Jan 23
Aedes antipodeus (winter mosquito)	1	14	-	-
Ae australis (saltwater mosquito)	-	2	107	-
Ae notoscriptus (striped mosquito)	140	803	5394	4500
Coquillettidia iracunda (no common name)	-	11	-	-
Coq tenuipalpis (no common name)	-	1	-	-
Culex asteliae (no common name)	-	1	-	28
Cx pervigilans (vigilant mosquito)	41	130	3426	2487
Cx quinquefasciatus (southern house mosquito)	557	759	14411	6769
Culex sp.	35	60	-	-
Cs tonnoiri (no common name)	-	7	-	-
Opifex fuscus (rock pool mosquito)	-	-	161	157
Total	**774**	**1788**	**23499**	**13941**

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 (69%) while adult numbers have shown a decrease (57%) (Table 1).

Compared to the previous month, both larval and adult numbers have shown an increase (147% and 390% respectively).

The highest number of larvae sampled this month was obtained in Northland (10662 larvae) followed by Canterbury (3381 larvae) (Figure 1).

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

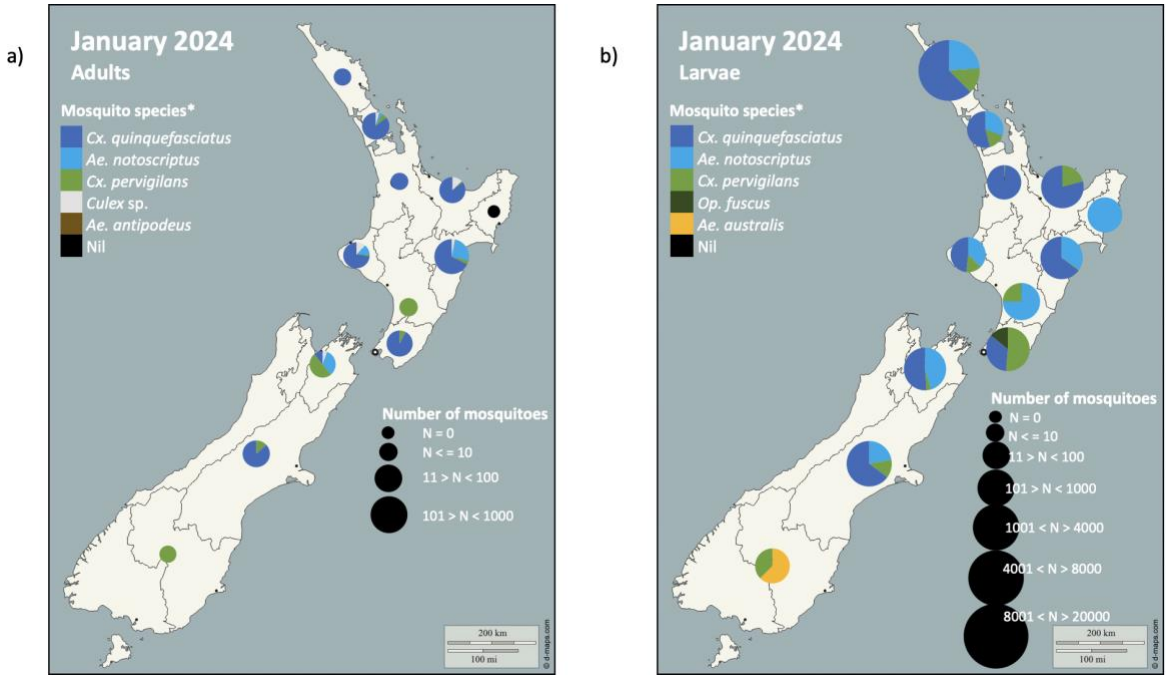

Figure 1. Total mosquito adults (a) and larvae (b) sampled in New Zealand during January 2024 surveillance period. Please note that the markers represent the PHUs and not the specific sites where the samples have been taken.
* The mosquito species are listed in order from the most abundant to the least abundant.

Aedes notoscriptus larval numbers have shown an increase in four PHUs and a decrease in six 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 (Figure 2).

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

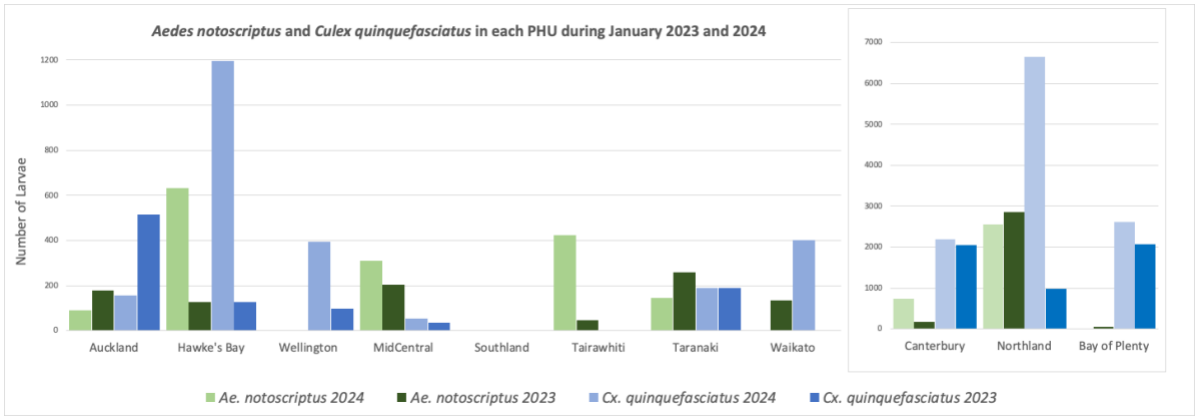

Figure 2. Comparison between introduced mosquito species sampled in each PHS during January 2023 and 2024. *Please note the different scale for the number of larvae present in Canterbury, Northland and Bay of Plenty in comparison to the other PHSs.

INCURSIONS AND INTERCEPTIONS

During January, HPOs responded to three suspected interceptions.

Table 2. Suspected interception during January 2024

Date	Species	Location	Circumstances
18.01.2024	1 Male *Culex pervigilans*	Hornby South, Christchurch	Found alive in a container of an assortment of low-risk items from Shanghai, China
29.01.2024	1 Male *Culex quinquefasciatus*	Manukau, Auckland	Found dead in a container of grapes from Australia
31.02.2024	1 Male *Culex sp*	Auckland International Airport	Found alive and caught by an MPI officer in the quarantine area opposite carousel 2 in the main hall

NEWS ARTICLES FROM AROUND THE WORLD

Dengue in South-East Asia and the Western Pacific

The World Health Organization (WHO) reports continued transmission of dengue in Southeast Asia and the Western Pacific. The following countries have reported cases between 1 January 2023 and late December 2023: **Australia**: 1 023 cases; **Bangladesh**: 320 460 cases (1 697 deaths); **Cambodia**: 31 567 cases (39 deaths); **China**: 17 788 cases (1 death); **Laos**: 31 997 cases (20 deaths); **Malaysia**: 120 418 cases (96 deaths); **Maldives**: 3 223 cases; **Nepal**: 51 243 cases (20 deaths); **Philippines**: 195 603 cases (657 deaths); **Singapore**: 9663 cases; **Sri Lanka**: 84 727 cases; **Thailand**: 150 808 cases (165 deaths); **Vietnam**: 166 619 cases (42 deaths); **Pacific Island countries** reporting "dengue-like illness" in late 2023 include Fiji, French Polynesia, Palau, Federated States of Micronesia, New Caledonia, Samoa, Solomon Islands, Vanuatu and Wallis & Futuna. Learn how to be protected while traveling here

South America dengue spike prompts vaccination drive as bug spray runs out

BRASILIA/MONTEVIDEO, Jan 25 (Reuters) - South America is seeing a surge in cases of the mosquito-borne disease dengue during the southern hemisphere summer, prompting Brazil to roll out a novel vaccine campaign, while in Argentina many stores have run out of bug spray. With 2023 already having set a record for dengue cases in the region, Argentina has seen a sharp spike in the disease that's endemic in much of Latin America. While often asymptomatic, dengue can be fatal. Brazil this month has started spraying insecticide from trucks as the disease rips through previously unaffected regions, while hospitals in Paraguay have set up night clinics to attend to the sick due to elevated dengue activity. Argentina has recorded over 12,500 cases of the disease in the last month, according to the latest official health bulletin, a big jump versus the same period a year ago, leading to health warnings and shortages of insect repellent. Learn more about the dengue situation in South America here.

Wet weather creates perfect conditions for mosquitoes, raising concerns about Ross River virus

Both ends of Queensland are buzzing with an upsurge in mosquitoes as weeks of rain, high temperatures and oppressive humidity create ideal breeding conditions for the blood suckers. The spike has medical experts warning about the potential spread of mosquito-borne diseases, particularly Ross River virus, given the ideal conditions. Ross River is the most common mosquito-borne virus in Queensland, with 698 cases recorded last year and 837 in 2022. In 2020, there were more than 3,000 cases diagnosed across Queensland. Learn more about the Aussie mozzie situation here.

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Stickers and wristbands aren't a reliable way to prevent mosquito bites. Here's why

Protecting yourself and family from mosquito bites can be challenging, especially in this hot and humid weather. Protests from young children and fears about tropical insect repellents drive some to try alternatives such as wristbands, patches and stickers. These products are sold online as well as in supermarkets, pharmacies and camping stores. They're often marketed as providing "natural" protection from mosquitoes. But unfortunately, they aren't a reliable way to prevent mosquito bites. Here's why – and what you can try instead. Learn more here.

Mosquitoes spread flesh-eating bacteria that causes Buruli ulcer from possums to humans, scientists say

Scientists say they've confirmed a long-suspected link between mosquitoes and the spread of the flesh-eating bacteria that causes the Buruli ulcer. The ulcer was first detected in Australia in the 1940s, and its diagnosis has grown significantly in Victoria in recent years. The team behind the research says their study will help provide people with guidance to protect themselves against the ulcer, but others in the field say there is more to be revealed about why the bacteria is spreading. Researchers say they have confirmed a theory that a flesh-eating bacteria that affected hundreds of Australians last year is being spread from infected possums to humans by mosquito bites. The bacteria Mycobacterium ulcerans (M. ulcerans) creates toxins that destroy skin cells, blood vessels and fat under the skin, causing the Buruli ulcer. Learn more here. Access the original article.

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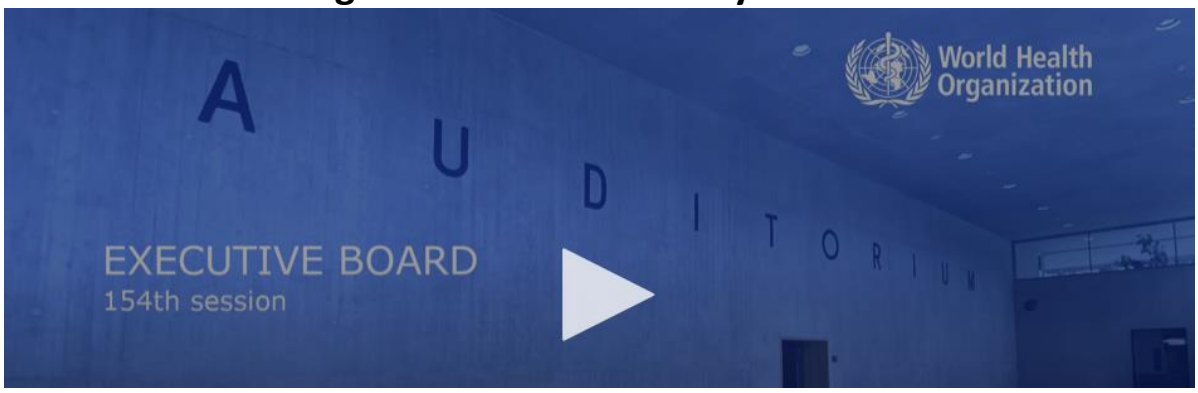
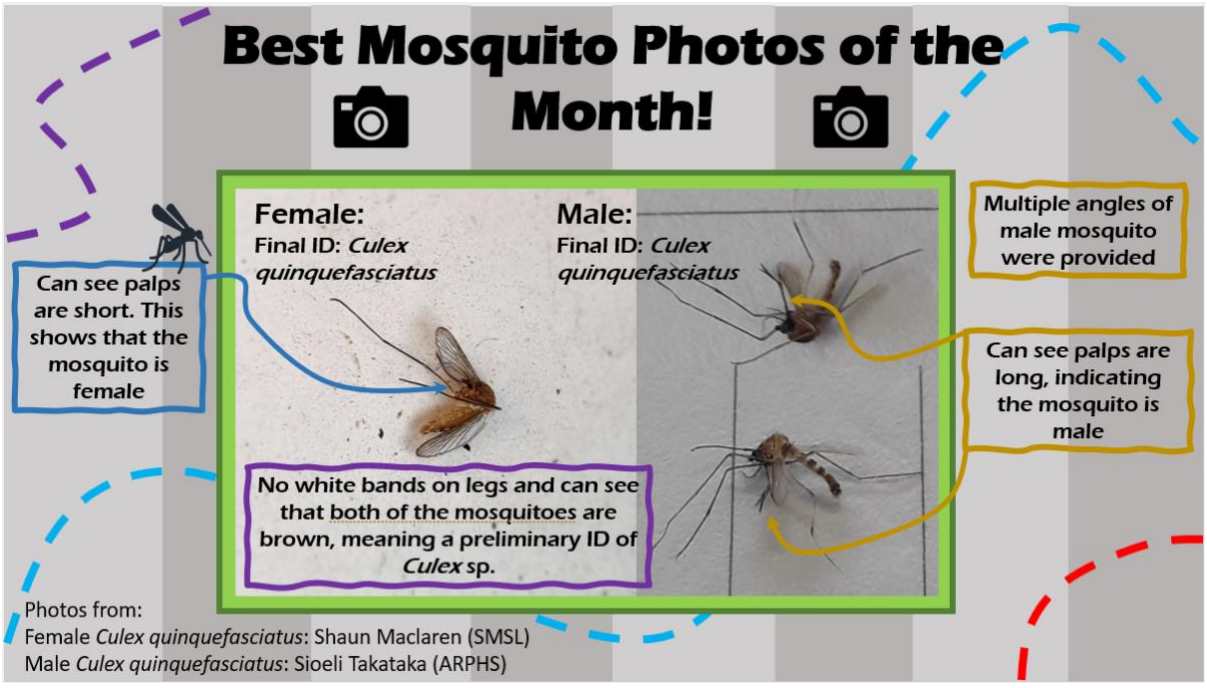
Message by the Director of the Department of Immunization, Vaccines and Biologicals at WHO - January 2024



As the world welcomes a new year, the global health landscape is brimming with both opportunities and challenges. Let's take a closer look at the ongoing efforts and significant developments shaping the narrative of the first months of 2024. Last week, the WHO Executive Board (EB) concluded its review of the Immunization Agenda 2030 (IA2030) 2nd progress report summarizing where things stand on the IA2030 goals, high-level priorities, and the implementation status of the IA2030 at country, regional, and global levels. The EB expressed strong appreciation for the DG's report to the Member States and re-emphasized many points raised in the report while recognizing the role played by WHO, UNICEF, Gavi Alliance and other partners. The EB emphasized the need for continued cooperation, essential to achieve the goals of the IA2030, across all key partners and stakeholders, and through national efforts and investment. Member States are calling for enhanced political will to increase investment in immunization. Learn more here.

BEST MOSQUITO PHOTO OF THE MONTH



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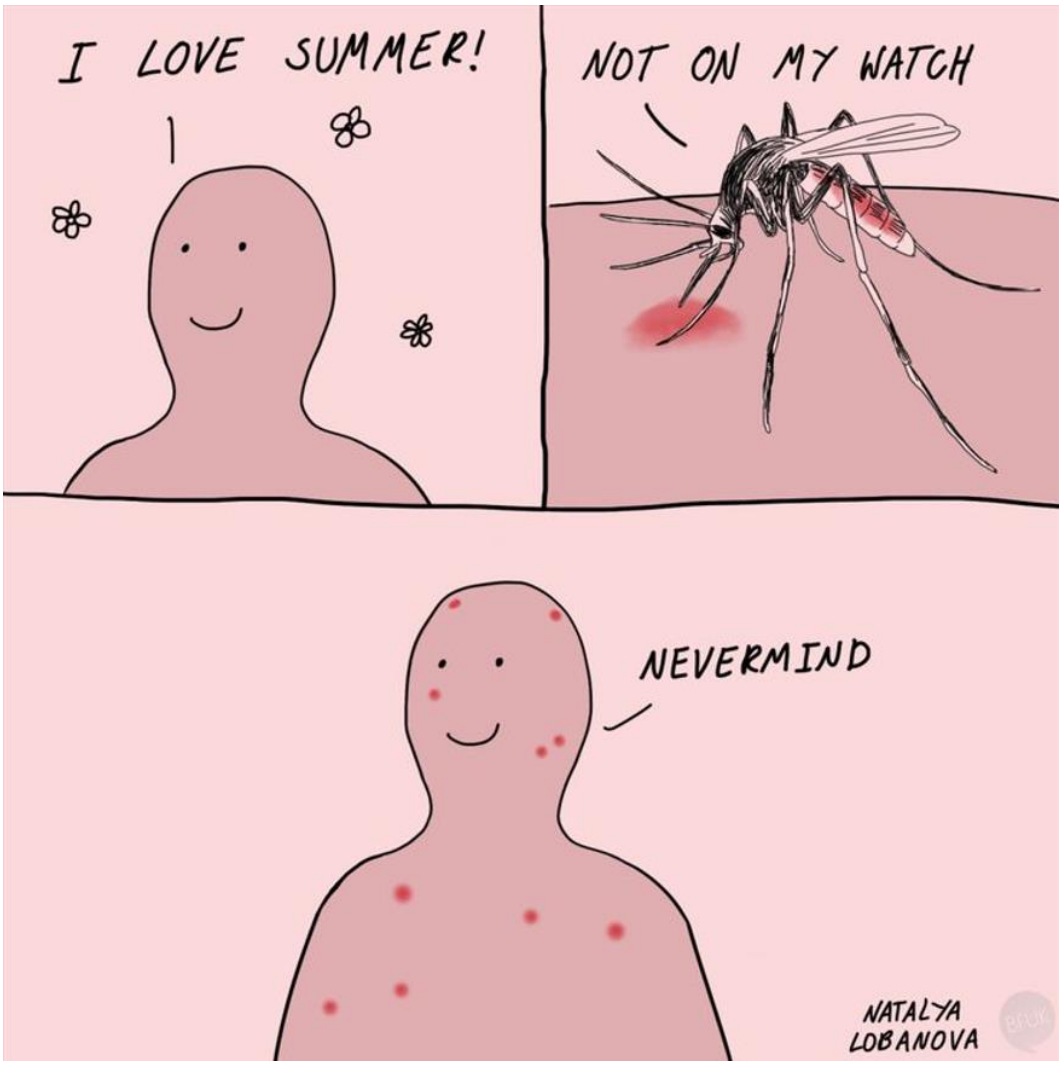
A BITE OF HUMOUR



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