New Zealand BioSecure
A division of Southern Monitoring Services

BORDER HEALTH NEWSLETTER

October 2026

NAU MAI, HAERE MAI - WELCOME!

Kia ora koutou katoa,

It was so wonderful meeting so many of you at our "Medical Vectors Surveillance Workshop" in Auckland! We truly hope you enjoyed it as much as we did. We hope you're already putting your new skills into action and sharing those fresh updates with your colleagues back home. As always, please don't hesitate to reach out to the lab if you have any questions at all—we're here to help!



After many years of dedicated leadership, Kevin Campbell is stepping down from directing the SMSL courses. Kevin's contributions to the broader health protection field have been immense. His vast knowledge, paired with his endless generosity in sharing it, has shaped the careers of so many who passed through his courses. While his legacy will permanently remain a part of SMSL, he will be missed immensely by all of us. Please join us in thanking Kevin for his outstanding service and wishing him all the very best in his well-deserved retirement!



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In this month's newsletter, learn about the concerning rise in global arboviral threats, including record-breaking West Nile virus transmission across Europe and a surge in locally acquired dengue cases in Florida, driven by native mosquito populations. Closer to home, we look at the increasing number of Buruli ulcer cases in Victoria and New South Wales, and share advice on how to protect yourself. Finally, explore recent scientific reviews highlighting epidemiological shifts and emerging trends between 2020 and 2026.

Scroll down and check how you did with last month's mini crossword! If you are enjoying the mosquito-related games, check out our first ever connections!

Happy reading!

SURVEILLANCE

During October a total of 1544 routine and enhanced surveillance, and various survey samples were collected by staff from 12 PHUs (Figure 1). The samples included 107 positive larval samples and 26 positive adult samples, leading to a total of 2273 larvae and 54 adults identified over the past month (Table 1).

Aedes notoscriptus was the dominant larval species both last month (921 specimens) and this month (1562 specimens) and in October 2025 (2246 specimens). For adults, *Aedes antipodeus* was the dominant species this month (19 specimens), last month (9 specimens), and in October 2025 (67 specimens) (Table 1).

In total, six mosquito species have been collected this month (Table 1), which is the same as 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*.

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

Species (common name)	Adults		Larvae	
	Oct 26	Oct 25	Oct 26	Oct 25
Aedes antipodeus (Winter mosquito)	19	67	-	-
Aedes notoscriptus (Striped mosquito)	9	1	1562	2246
Culex sp.	-	2	156	-
Culex asteliae (No common name)	-	-	-	4
Culex pervigilans (Vigilant mosquito)	4	10	382	1595
Culex pipiens sp. (Common house mosquito)	6	1	41	92
Culex pipiens complex sp. (No common name)	2	-	1	-
Culex sp. showing mixed features (No common name)	2	-	-	1
Culex quinquefasciatus (Southern house mosquito)	8	3	126	951
Opifex fuscus (Rock pool mosquito)	4	-	5	5
TOTAL	**54**	**84**	**2273**	**4894**

Compared to the previous month, the total numbers of larvae and adults have shown an increase (123% and 289% respectively).

Compared to this same month last year, the total numbers of larvae and adults have shown a decrease (54% and 36% respectively) (Table 1).

The highest number of larvae sampled this month (all instars included) was obtained in Northland (1520 larvae) followed by Taranaki (336 larvae). Considering only third and fourth instars, the highest number of larvae sampled this month was obtained by Northland (892 larvae) followed by Tairawhiti (231 larvae) (Figure 1).

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

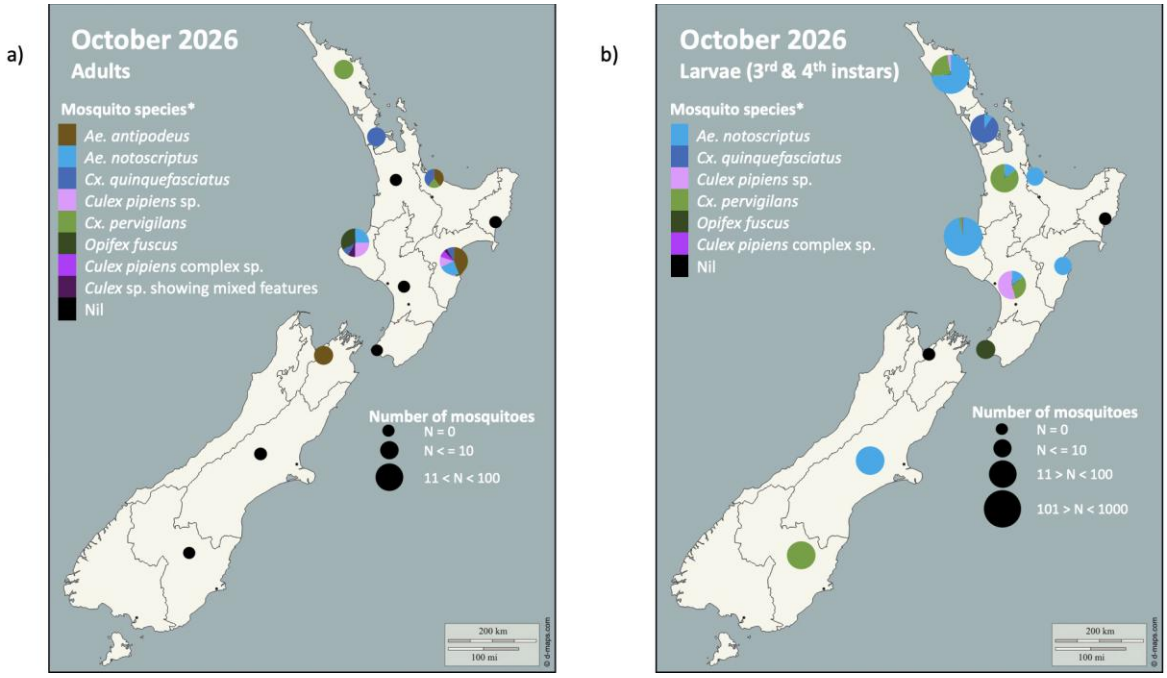


Figure 1. Total mosquito adults (a) and 3rd and 4th instar larvae (b) sampled in New Zealand during October 2026 surveillance period.
Please note that the markers represent the PHUs and not the specific sites where the samples have been taken.
* The mosquito species are listed in order from the most 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 Auckland and Bay of Plenty with an increase of 2 specimens on each. No decreases were observed for *Culex quinquefasciatus* adults. For third and fourth-instar *Culex quinquefasciatus* larvae, an increase of 84 specimens was observed in Auckland and a decrease of 4 specimens was observed in Northland compared to September 2025.

The largest increase for *Culex pipiens* sp. adults was observed in Taranaki with an increase of 3 specimens collected, with no decreases recorded. For third and fourth-instar *Culex pipiens* sp. the largest increase occurred in Northland with 23 specimens, followed by MidCentral with 7 specimens.

This year *Culex* sp. showing mixed features adults were collected from Taranaki and Hawke's with an increase on 1 adult on each. Nil *Culex* sp. larvae were recorded this year or last year in October. An increase in *Culex pipiens* complex adults was observed in Hawke's Bay (2 specimens) and an increase of 1 larva was observed in Taranaki.

For *Aedes notoscriptus* adults the largest increase was recorded in Hawke's Bay (6 specimens), followed by Taranaki (2 specimens) collected this month and the same month last year. For *Aedes notoscriptus* larvae the largest increase was in Taranaki (112 specimens), followed by Auckland (8 specimens). The largest decrease was in Northland (514 specimens), followed by Hawke's Bay (183 specimens).

This year and last year nil *Aedes australis* have been collected in Southland.

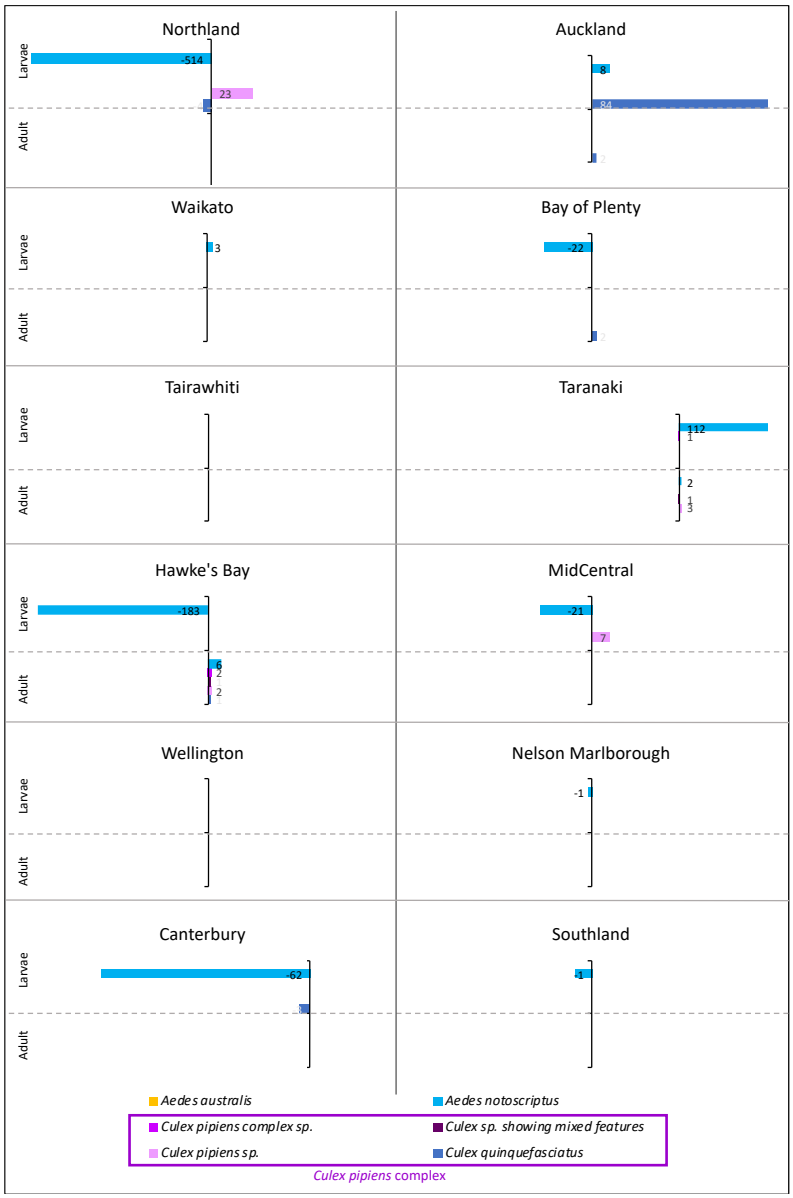


Figure 2. Comparison between the number of introduced mosquito species sampled in each PHU during October 2025 and 2026.
*Please note the different scale is different for each PHU. Species in the purple box are all members of the *Culex pipiens* complex. Larval ID is based on third and fourth instar only for species in the *Culex pipiens* complex while *Aedes notoscriptus* and *Aedes australis* are all larval stages.



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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 October, HPOs responded to four suspected interceptions, including the interception of an unwanted organism (shown in red) and the detection of three non-mosquitoes (Table 2).

Table 2. Suspected interceptions during October 2026

Date	Species	Location	Circumstances
13.10.26	5x Chironomidae Indet. (Non-biting midge)	Bluff, South Port	Found dead during the ship inspection of the vessel CAPE BRASILIA IMO. The last international port of call was Singapore and the first port in NZ was Lyttleton.
22.10.26	1x Tipulomorpha indet. (Cranefly)	Makita Factory Service Centre, Rolleston, Christchurch	Found alive by authorised person while killing a spider during the devanning of a container of power tools and replacement parts from China
24.10.26	1x Diptera Indet. (Fly)		Found alive by IMP while inspecting a consignment of bamboo from China.
30.10.26	1x Female *Aedes albopictus*	YHI New Zealand Ltd., Wiri, Auckland	Found in a container at Auckland transitional facility with few other non-mosquitoes. The MPI officer was not sure which specimen was alive.

NEWS ARTICLES FROM AROUND THE WORLD

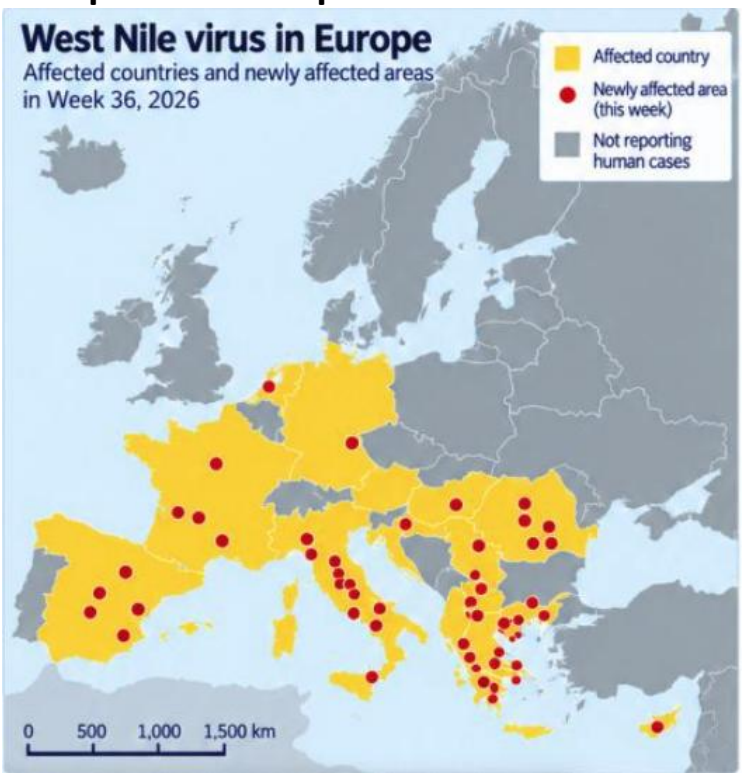
Flesh-eating Buruli ulcer cases are rising in Victoria and NSW. Here's how to protect yourself



It starts as a small, painless lump on the skin that is easy to ignore. But under the seemingly innocuous lump, flesh-eating bacteria are burrowing through fat and muscle. The skin over the lump then dies, turns black and eventually becomes an open sore that, if untreated, grows. This is a typical case of Buruli ulcer, a condition that until recently was primarily found

in West Africa. Victoria is now considered the Buruli ulcer centre of the world, with a record 426 confirmed cases last year. Read more here.

Record-high West Nile virus infections reported amid spread to new parts of Europe

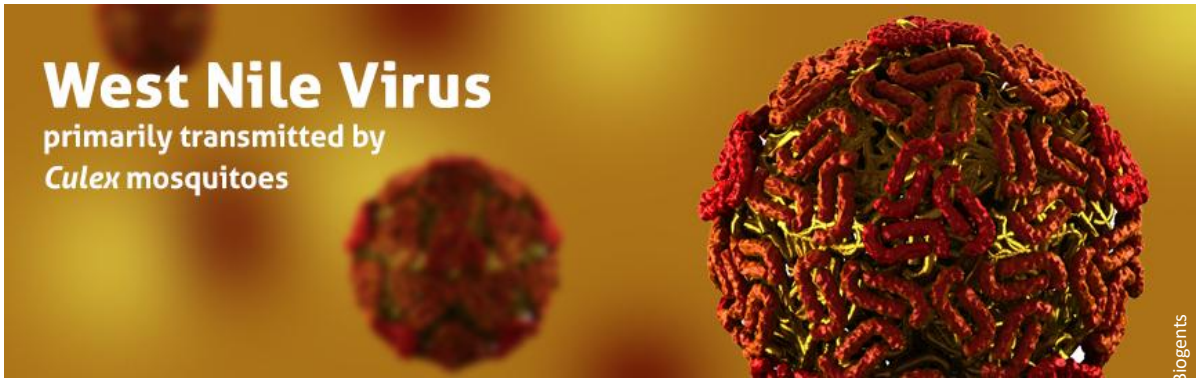


Countries reporting locally acquired cases

Country	Number of cases
Italy	516
Greece	284
Spain	88
Romania	56
North Macedonia	55
France	36
Serbia	18
Netherlands	9
Croatia	7
Cyprus	6
Austria	4
Hungary	3
Germany	2
Albania	1
Kosovo*	1

As of 7 October 2026, EU countries have reported 1 715 locally acquired human cases of WNV infection, the highest number ever reported. Italy remains the most affected country, with 748 cases reported. Greece and France reported their highest numbers of human cases of WNV infection ever. With the European Union experiencing its most intense West Nile virus (WNV) season to date and detections of the virus in new areas further north in Europe, the European Centre for Disease Prevention and Control (ECDC) calls for sustained prevention, surveillance and mosquito control. Read more here.

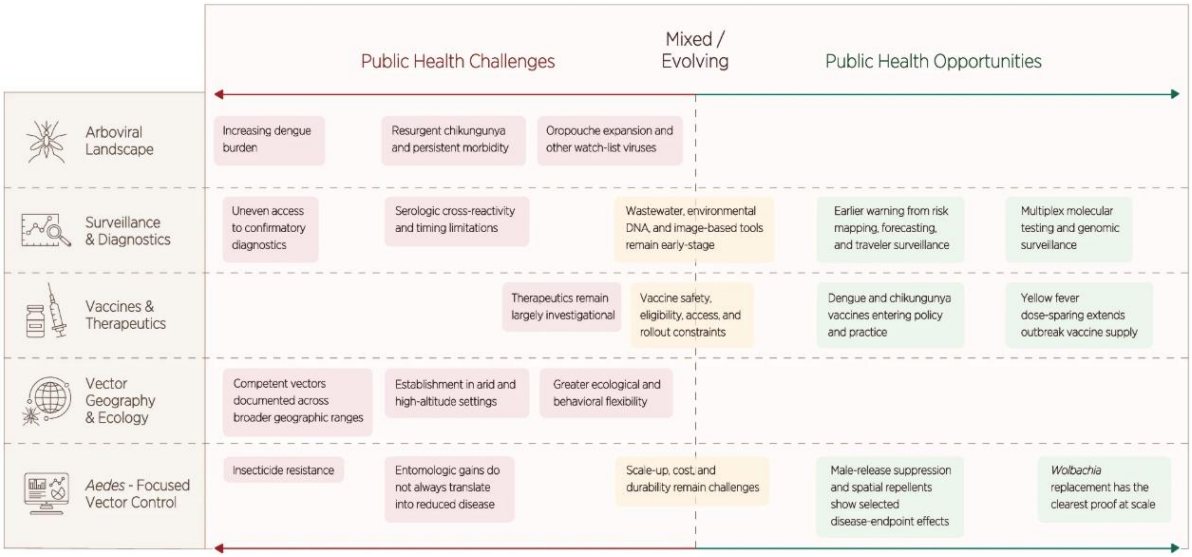
West Nile virus infection



West Nile virus (WNV) is transmitted by mosquito bites to birds. Humans and mammals can also become infected, although about 80% of human infections have no symptoms. Most

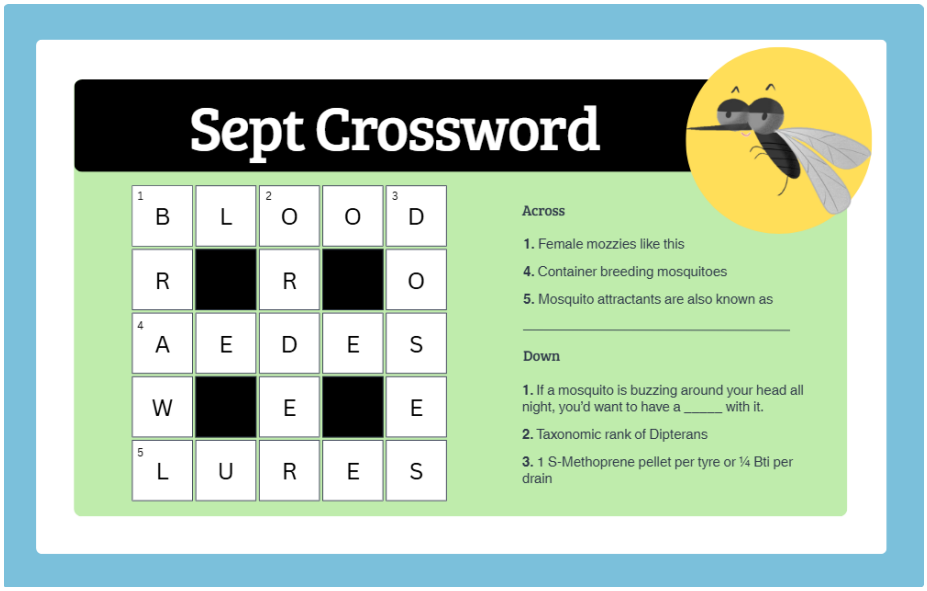
cases in humans occur between July and September when mosquitoes are active. Learn more about WNV here.

Changes in arbovirus risks and responses from 2020 to 2026



Since 2020, viruses spread by mosquitoes and biting midges have become a larger and less predictable public health challenge. Dengue continues to cause the greatest burden, but chikungunya, Oropouche, and other viruses are re-emerging or spreading into new areas. In this narrative review, we summarize major changes in arbovirus epidemiology, surveillance, diagnosis, vaccination, treatment, vector ecology, and mosquito control from 2020 to 2026. New tools can help detect risk earlier and prevent disease, but their usefulness depends on local capacity, safety monitoring, affordability, environmental considerations, and sustained implementation. The next phase of arbovirus control will depend on using these tools strategically, equitably, and before outbreaks overwhelm health systems. Access full article here.

A BITE-SIZED CROSSWORD – ANSWERS





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MOSQUITO CONNECTIONS

CONNECTIONS

Flight	Failure	Underwater	Juvenile
Rolex	Cacophonies	Pontifex	Ladies
Shaded	Visible	Sheltered	Vegetation
Egg	Larva	Pupa	Adult

HOW TO PLAY

Select 4 words from the grid which belong in the same category.

Scan the QR code or click on Connections for an interactive version.

Can you find all the categories?

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