



Newsletter - June 2010

Hello everyone. I hope you're all surviving this soggy weather, we must be due for a dry spell again soon!?

SAMPLES

During June, a total of 519 samples were collected by staff from 12 public health services, with 34 positive.

Table with 3 columns: Species, Adults, Larvae. Rows include Aedes notoscriptus, Culex pervigilans, Cx. quinquefasciatus, Opifex fuscus, Exotics, Aedes cooki, Aedes vexans, and a TOTAL row.

INCURSIONS/INTERCEPTIONS

During June there were two exotic interceptions: 88 Aedes cooki larvae were confirmed from water pools on a trailer with a diesel tank, together with other cargo out of Southern Tiare from Nuie on a ship docking at Ports of Auckland.

NSP UPDATE

Amidst variable weather conditions throughout the country, some good patches of weather provided ideal sampling conditions in several

zones and June surveillance has been completed.

Larval finds are reasonable for this time of the year, however staff report adult numbers appear very low. High tides have had an impact on some sites and salinity levels were expectedly high.

A landowner and stakeholder newsletter has been posted and the annual dataset for July 2009 – June 2010 is expected to be completed by the end of July.

It is with some sadness that SMS New Zealand BioSecure advises that we are exiting the NSP as of 30th June 2010. NZB has developed and implemented the NSP since 2005. The programme was developed by NZB Auckland staff and adopted a novel approach to surveillance operations and data management.

It is with pleasure that we can advise the NZB staff involved in our National mosquito surveillance programme have been employed by the new provider – Mosquito Consulting Services (NZ) (MCS(NZ)).



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SMS and New Zealand BioSecure wish to extend our thanks for all your support and encouragement received to date. We wish to reiterate that NZB is exiting the NSP only, all other NZB services and provisions will continue. Please do not hesitate to contact us at taxonomy@nzbiosecure.net.nz or enquiries@smsl.co.nz for further information.

Monica Singe
Technical Manager

New Zealand BioSecure (NZB) – SSM Eradication

Recent media announcements that New Zealand has been declared eradicated of the Southern Saltmarsh Mosquito (SSM) has reminded us of our significant involvement in this campaign for the protection of New Zealand's public health.

SMS and NZB were instrumental in the eradication programmes of Napier, Gisborne, Mahia, Porangahau, Kaipara, Whitford, Mangawhai, Whangaparaoa, Coromandel and Wairau/Grassmere. The NZB team of eradication, surveillance and laboratory staff and the support from Public Health Services, were in our mind the reason for this huge success. With no reports of SSM specimens being detected or captured from any of the North Island sites since our involvement, we take pride that this eradication was due to our committed team and the excellent experience maintained and fostered by NZB amongst the team since 2000. Throughout these programmes NZB worked with Australian colleagues and the NZ Ministry of Health to develop recognised best practice for saltmarsh surveillance, eradication and programme implementation suitable for New Zealand conditions. We feel proud to have been intrinsically and instrumentally involved in the success of these eradication programmes. To all our staff, past and present, landowners, stakeholders and public health colleagues, we extend our congratulations and recognition of your involvement of such an enormous achievement.

MOSQUITO-BORNE DISEASES

AUSSIE MALARIA TREATMENT BLOCKS PARASITE

Source: 3 June 2010; Australian Associated Press, reported on N.Z. Royal Society email, 4 June 2010
Heparin, which is used to treat blood clots, is effective at stopping the malaria parasite from attaching and burrowing into red blood cells.

Australian scientists have found a unique way to block a malaria infection, opening up a new front in the war on the mosquito-borne parasite which infects 400 million people every year. Researchers at the Melbourne-based Walter and Eliza Hall Institute for Medical Research have identified an alternative method to that used by conventional treatments, which kills off the parasite once it has gained access to a person's red blood cells.

The institute's Dr James Beeson said the new method had proven capable of stopping the parasite from entering the cells altogether, robbing it of the safe haven it needed to multiply while hiding from the body's defences.

"All of the currently licensed anti-malarial drugs that are used in humans act by inhibiting or slowing down the development of the parasite once it is inside the red blood cell," Dr Beeson told AAP on Thursday.

"This (alternative) approach is to block the parasite from getting inside the red blood cell in the first place ... it would be ideal to use this approach in combination with an existing anti-malarial so it would be a two-pronged attack. "One would try to stop the parasite from getting in and the other would be trying to stop the development of any parasite within the red blood cells."

The scientists found the blood-thinning drug heparin, which is used to treat blood clots, was effective at stopping the malaria parasite, most commonly *Plasmodium falciparum*, from attaching and burrowing into red blood cells.



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They then developed similar molecules that boosted this effect against the parasite but had no blood-thinning effect.

Dr Beeson said with further refinements, and trials to ensure its safety, reformulated and "two-pronged" anti-malarial treatments could be introduced to the world in five to 10 years.

It would boost the protection for travellers in malaria-prone developing nations and provide a more effective treatment for malaria once infection took hold, resulting in less sickness and fewer deaths.

About one million people, mostly children, die as a result of malaria every year.

"This is an exciting time in the fight against malaria," Dr Beeson said. "There is a lot of momentum now, globally, with new vaccine candidates and new drug compounds like this being identified. "There is a real sense of optimism that we can make a major impact on the burden of malaria."

The work was also led by Michelle Boyle and Jack Richards from the institute's Infection and Immunity division, along with colleagues at the Burnet Institute and Imperial College London.

The findings are published on Thursday in the international journal *Blood*.

CHIKUNGUNYA AND DENGUE - FRANCE EX OVERSEAS TERRITORIES

Source: Notre-Planete.info [in French, trans. Corr.SB, edited] 14 June 2010, circulated on Promed Mail 16 June 2010

In May 2010, due to air travel and the current epidemics of dengue in French Departments of America and the Indian Ocean, and chikungunya in Reunion, dozens of imported cases are reported in the departments of the south of France where the tiger mosquito has become established

Chikungunya virus is an arbovirus. Transmission is from person to person via *Aedes* mosquitoes.

The Institut de Veille Sanitaire (1) states that the introduction of the virus in Reunion and Mayotte in 2005 resulted in an epidemic of high magnitude that lasted until April 2007, when the 2 islands entered an inter-epidemic phase characterized by sporadic circulation of the virus.

Apart from the "imported cases" of travelers who acquired infection in an area where the chikungunya virus was circulating, no indigenous cases of chikungunya virus (which would develop on the spot) have been currently observed in other overseas metropolitan departments and territories. Yet the potential transmission of chikungunya [virus] in metropolitan France is geographically limited due to the location of the the mosquito vector (*Aedes albopictus*, the tiger mosquito) and the possible introduction of the viruses by persons infected at the viremic phase.

Symptoms of chikungunya [virus infection] are: after incubation for 4 - 7 days on average (1-12 days), high fever is accompanied by brutal arthralgia (joint pain) may be intense, primarily affecting the extremities (wrists, ankles, knuckles). Myalgia (muscle pain) also occurs, headache, and a maculopapular rash. Also possible is a benign type of gingival bleeding (bleeding gums), especially in children. Treatment is symptomatic (analgesic, antipyretic).

The evolution is usually favorable, without sequelae, but it may also evolve into a chronic phase characterized by persistent arthralgia.

Many [dengue and chikungunya] cases are regularly reported from the overseas territories of France (2).

* Martinique, Guadeloupe and Guyana: dengue fever



- * La Reunion: end of chikungunya outbreak in Plateau Caillou, but active and persistent movement in the town of Saint-Paul, 115 indigenous cases of dengue (serotype 3 virus)
- * Mayotte: Indigenous circulation of dengue virus (39 cases), serotype 3 virus
- * Guyana: since the beginning of the epidemic (last week of December [2009]) it is estimated that the a total number of 6000 clinical cases occurred, suggestive of dengue fever in the entire department.

On 30 Aug 2007, the Italian health authorities reported an outbreak of chikungunya raged since early July 2007 in the province of Ravenna, Emilia Romagna. The outbreak in Italy demonstrates the reality of the risk of vectorborne chikungunya virus in parts of southern Europe. The Italian region where the epidemic raged has climatic characteristics very similar to those of the French departments where *Aedes albopictus* is currently located: Alpes-Maritime, Haute-Corse, Corse du Sud, and Var.

The accelerated monitoring of dengue and chikungunya, which has been implemented on 1 May 2010 has permitted detection in the 5 departments affected by *Aedes albopictus* by 10 June 2010, of 40 suspected cases (reported to the Regional Health Agencies and Paca Corsica). Of these cases, 26 were RT-PCR and/or IgM positive confirming a recent infection caused by dengue or chikungunya viruses. These 26 positive cases were all imported. [Of these,] 20 were viremic [including]: 19 confirmed cases of dengue fever (including 5 of serotype DENV-1 and 3 of DENV-3) and one case of chikungunya. In regard to visits abroad, most had traveled in the Caribbean (19 cases) or in the Indian Ocean (7 cases).

The evaluation carried out by entomological background EID-Mediterranee (entomology services and vector control) throughout the PACA (Province, Alpes Cote d'Azur) region has confirmed that the activity of *Aedes albopictus*

had resumed intensively in the Alpes-Maritimes, and debuted in the Var and the Bouches du Rhone.



Map ex www.mapsofworld.com/france/france-political-map.html

Prevention is based on individual means of protection against mosquito bites (spray, cream, coils, electric diffusers, long clothing, mosquito nets, use of air conditioning). The community prevention involves the elimination of potential breeding sites (stagnant water) near the houses.

Notes:

1. Public institution under the supervision of the Ministry of Health, Institute of Health Surveillance (VS) met the tasks of monitoring, vigilance and alert in all areas of public health.
2. The overseas territories are: New Caledonia - French Polynesia - Wallis and Futuna, French Departments of America - Reunion – Mayotte

MISCELLANEOUS DISEASES

RABIES - WORLDWIDE: ONE-STOP WEBSITE

Launching of the Blueprint for canine rabies elimination and human rabies prevention:

Source: ProMed Mail, 27 Jun 2010



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Rabies continues to be an active threat in many countries throughout the world, as regularly reported on ProMED. In an effort to help countries find and implement realistic solutions to reduce the burden of rabies throughout their territory, the Global Alliance for Rabies Control, Partners for Rabies Prevention and FAO's Regional Central Animal Health in Bamako, under the coordination of Dr Tiziana Lembo, are launching a new on-line "Blueprint for canine rabies elimination and human rabies prevention," accessible at <http://www.rabiesblueprint.com/> .

This Blueprint brings together recommendations from WHO, OIE, FAO, academic institutions, animal welfare organizations, vaccine producers and other global stakeholders involved in rabies control as well as published data from the field, and case reports for closer examination of how human rabies can be prevented and canine rabies can be eliminated. It is not meant to replace existing material or national guidelines but rather to serve as an easy-to-use guide and a one-stop website where national stakeholders can find up-to-date normative and practical information on how to prevent and control rabies.

The information is available in both English and French and we hope to have additional languages to increase the website's usage in other countries. More chapters addressing wildlife rabies control will soon be added. We invite everyone involved in rabies control throughout the world to utilize the Blueprint and look forward to comments and feedback on how we may improve the website.

Mozzie Photo of the Month



Adult female *Aedes vexans* intercepted at Ports of Auckland.