



Newsletter - March 2010

Hi everyone. Welcome to our first autumn newsletter for 2010. We've been having a lovely season here in Canterbury so far, hopefully it continues for a while yet.

Rachel

SAMPLES

During March, a total of 1040 samples were collected by staff from 12 public health services, with 276 positive. Sampling numbers were up on last month and this time last year. The specimens received were as follows:

Table with 3 columns: Species, Adults, Larvae. Rows include Aedes australis, Ae. notoscriptus, Coquillettidia iracunda, Culex pervigilans, Cx. quinquefasciatus, Opifex fuscus, Exotics, Aedes vittiger, and a TOTAL row.

INCURSIONS/INTERCEPTIONS

During March we had six interception callouts with five of these involving Culex quinquefasciatus adult specimens from Auckland International Airport. The callout on 15 March involved a dead Aedes vittiger adult female being found in the packaging surrounding a muffin on a Qantas flight from Brisbane.

Aedes vittiger is not a medically important species however it has been shown to carry Murray Valley Encephalitis in the laboratory. It is an aggressive day biting mosquito which readily feeds on humans. It often appears in large numbers after rains as it's preferred habitat is temporary rain-filled depressions on the ground. See photo on page 3.



MOSQUITO-BORNE DISEASES

DENGUE/DHF UPDATE - AUSTRALIA (NORTH QUEENSLAND)

Source: ABC 5 Mar, posted on ProMED mail 9 Mar 2010 Queensland Health says it has been 3 months since the last case was diagnosed. Health authorities in north Queensland have declared the dengue fever outbreak in Townsville over. There were 13 cases of locally-acquired dengue between November and December last year [2009].



Modified map ex http://www.golftravel.com.au/Destinations/AustralianDestinations/Destination/tabid/134/Default.aspx?r=10

[Although dengue virus transmission was reported halted in Townsville, North Queensland, it continues further north in the state in Tully. Hopefully the control measures successfully applied in Townsville are equally successful in Tully.]

ST. LOUIS ENCEPHALITIS - ARGENTINA

Source: PAHO 31 Mar, posted on ProMED 3 Apr 2010 Epidemiological Alert: New Confirmed Cases of Saint Louis Encephalitis in Capital City and Province of Buenos Aires, Risk of Viral Circulation (31 March 2010)



NEW ZEALAND BIOSECURE

Entomology Laboratory



The Ministry of Health of Argentina has confirmed new cases of Saint Louis Encephalitis (SLE) virus infection. Up to 29 March 2010, 4 confirmed cases of SLE infection had been reported in the nation's capital city and in Buenos Aires province.

The SLE virus had previously caused outbreaks in the central part of the country (mainly in the provinces of Cordoba and Entre Rios), and this is the first time that it has been detected in Buenos Aires.

[Since less than one percent of SLEV infections are clinically apparent, these 4 cases suggest that some 400 individuals have been infected by the virus, most with mild or no symptoms. The case fatality rate ranges from 5 - 30 percent, with higher rates among the elderly.

Because there is no vaccine to prevent St Louis encephalitis virus infection, the USA CDC recommends avoiding exposure by preventing mosquito bites.]

### **MALARIA - AFRICA: COUNTERFEIT DRUGS**

**Source:** CBC News Canada 9 Feb 2010, posted on ProMED 11 Feb 2010

Bad malaria pills raise resistance fears in Africa

High rates of the most effective type of malaria-fighting drugs sold in 3 African countries are poor quality -- including nearly half the pills sampled in Senegal -- raising fears of increased drug resistance that could wipe out the last weapon left to battle a disease that kills 1 million people each year, according to a US report released Monday [8 Feb 2010].

Between 16 percent and 40 percent of artemisinin-based drugs sold in Senegal, Madagascar, and Uganda failed quality testing, including having impurities or not containing enough active ingredient, the survey found.

Artemisinin-based drugs are the only affordable treatment for malaria left in the global medicine cabinet. Other drugs have already lost

effectiveness due to resistance, which builds when not enough medicine is taken to kill all of the mosquito-transmitted parasites. If artemisinin-based drugs stop working, there is no good replacement and experts worry many people could die.

"It is worrisome that almost all of the poor-quality data that was obtained was a result of inadequate amounts of active (ingredients) or the presence of impurities in the product," said Patrick Lukulay, director of a nongovernmental US Pharmacopeia program funded by the US government, which conducted the survey. "This is a disturbing trend that came to light."

The study is the 1st part of a 10-country examination of antimalarials in Africa by the US and the World Health Organization (WHO). It follows evidence from the Thai-Cambodian border that artemisinin-based drugs there are taking longer to cure malaria patients, the 1st sign of drug resistance.

The 3-country report also found bad drugs in both the public and private health sectors, meaning governments - some buying medicines with donor funds - are not doing enough to keep poor-quality pills out. All of the drugs tested from the public sector in Uganda, however, passed the quality tests. But 40 percent of the artemisinin-based drugs in Senegal failed.

"There are countries where donated medicines are not subjected to quality controls, they're just accepted," said Lukulay. "There are countries in Africa where Chinese products have been donated and found to be unacceptable later in the public sector."

A total of 444 samples of artemisinin-based combination drugs along with the antimalarial sulfadoxine-pyrimethamine - to which resistance has already developed - were 1st screened locally using visual inspection and basic lab tests. Sulfadoxine-pyrimethamine is



NEW ZEALAND BIOSECURE

Entomology Laboratory



still used, mainly for preventative treatment for pregnant women.

Nearly 200 samples then underwent full quality control testing in a US laboratory to examine the amount of active ingredient present and drug purity. For both drugs, 44 percent from Senegal failed the full quality testing, followed by 30 percent from Madagascar and 26 percent from Uganda.

While the study is not the 1st to assess the quality of antimalarials in Africa, it is the most rigorous and complete. Similar failure rates were found in previous work, but those did not focus specifically on artemisinin-based drugs.

"I am alarmed by these results because it means there are many cases of malaria that are being only partially treated, and that just guarantees acceleration of artemisinin drug resistance," said Rachel Nugent, deputy director for Global Health at the Center for Global Development, a US think tank. "It is the most comprehensive study out there on antimalarials and should be a wake-up call." Nugent was not involved in the study.

## Mozzie Photo of the Month



***Aedes vittiger* adult female interception specimen**