BORDER HEALTH NEWSLETTER - APRIL 2011

WELCOME!

Hi everyone. Well, where to begin, Christchurch continues to shake, rattle and roll and winter is looming ever closer. Mozzie numbers are dwindling, but they are generally still present throughout the country, albeit in lesser quantities.

INCURSIONS/INTERCEPTIONS

There was only one interception callout during April which involved an adult female *Culex quinquefasciatus* found near the x-ray units within Auckland International Airport arrivals area.

WEBSITE

Public Health nuisance pest enquiries continue to increase even though the weather is cooling. Mosquitoes, midge, dust mites and nits in particular continue to be of most interest, and we are continually adding more information and items as enquiries from the public and our clients come in. You can download the newsletters and reports from the website and if you find something you think should be listed, we'd love to hear from you.

PHS are considered commercial clients by the website and are able to use the purchase order option for any supplies that are required, this is followed up with an invoice direct to you. Please ensure you include an order number for referencing in the invoice.

If a product is listed as please enquire, there are generally restrictions on its sale. We hope you are finding this on-line service useful and are always happy to address any enquiries or matters you may wish to discuss. Please feel free to contact us through the website, or email us directly at enquiries@smsl.co.nz or taxonomy@nzbiosecure.net.nz .

SAMPLES

During April, 462 samples were collected by staff from 12 District Health Boards, with 78 positive. Sampling numbers were down on last month and on this time last year, which is not surprising given the weather much of the country experienced during the course of the month. The specimens received were:

Species	Adults	Larvae
NZ Mozzies		
Aedes antipodeus	17	0
Ae. australis	0	1
Ae. notoscriptus	161	963
Ae. subalbirostris	0	2
Culex pervigilans	12	671
Cx. quinquefasciatus	27	346
Opifex fuscus	0	4
Exotics	0	0
TOTAL MOSQUITOES	**217**	**1987**

Photo of the Month

***Phlebotomus* sp.** – a common vector of leishmaniasis (see article later in this newsletter)

Photo ex http://www.stanford.edu/class/humbio103/ParaSites2003/Leishmania/Vector%20and%20Reservoirs1.html

MOSQUITO-BORNE DISEASES

MONKEYS PROVIDE MALARIA RESERVOIR FOR HUMAN DISEASE IN SOUTHEAST ASIA

Source: Science Codex [edited] 8 Apr 2011 reported on ProMED Mail 10 Apr 2011

Monkeys infected with an emerging malaria strain are providing a reservoir for human disease in Southeast Asia, according to research published today [8 Apr 2011]. The Wellcome Trust funded study confirms that the species has not yet adapted to humans and that monkeys are the main source of infection.

There are 5 species of malaria parasite that are known to cause disease in humans, of which *Plasmodium knowlesi* is the most recently identified. Previously thought to only infect monkeys, researchers have shown that human *P. knowlesi* infections are widely distributed in Southeast Asia and that it is a significant cause of malaria in Malaysian Borneo.

Until now, it was not clear whether the infection is transmitted from person to person, or is passed over from infected monkeys.

Researchers led by Professor Balbir Singh at the Malaria Research Centre, Universiti Malaysia Sarawak, collaborating with Sarawak State Health Department, St George's University of London and the London School of Hygiene and Tropical Medicine, examined blood samples from 108 wild macaques from different locations around the Sarawak division of Malaysian Borneo.

Their results reveal that 78 percent were infected with the *P. knowlesi* species of malaria parasite, and many were infected with one or more of 4 other species of monkey malaria parasites that have not yet been found in humans. By comparing the molecular identity of the parasites from monkeys and those isolated from patients with knowlesi malaria, the team were able to build a picture of the evolutionary history of the parasite and its preferred host.

Their analysis reveals that transmission of the knowlesi species is more common amongst wild monkeys than from monkeys to humans, and that monkeys remain the dominant host. "Our findings strongly indicate that *P. knowlesi* is a zoonosis in this area, that is to say it is passed by mosquitoes from infected monkeys to humans, with monkeys acting as a reservoir host," explains Professor Singh.

"However, with deforestation threatening the monkeys' habitat and increases in the human population, it's easy to see how this species of malaria could switch to humans as the preferred host. This would also hamper current efforts aimed at eliminating malaria."

Based on the molecular data, the researchers estimate that the knowlesi malaria species evolved from its ancestral species between 98 000 and 478 000 years ago. This predates human settlement in the area, meaning that monkeys are mostly likely to have been the initial host for the parasite when the species 1st emerged. This estimate also indicates that the species is as old as, or older than, the 2 most common human malaria parasites, *P. falciparum* and *P. vivax*. The study is published today in the journal PLoS Pathogens.

SANDFLY-BORNE DISEASES

[NB – THESE ARE NOT THE SAME INSECTS AS WHAT ARE COMMONLY CALLED SANDFLIES IN NZ]

LEISHMANIASIS IN SOUTHERN SUDAN

Source: BBC News [edited] 11 Mar 2011 reported on ProMED Mail 14 Mar 2011

The worst outbreak of "black fever" in nearly a decade has hit Southern Sudan. Unless it's treated, kala azar -- also known as visceral leishmaniasis -- kills nearly all of those infected.

The World Health Organization estimates that there are up to 500 000 new cases every year.

Leishmaniasis is spread by sandfly bites and symptoms include anaemia, nausea, and a swollen liver or spleen, where the parasites multiply, overwhelming the immune system.
The commonest treatment is an antimonial drug from the 1930s, SSG [sodium stibogluconate], which is very toxic and can itself kill.

Koert Ritmeijer, head of Medecins Sans Frontieres medical department in Amsterdam, says at their clinic in Malakal they are now using a shorter combination treatment which is less toxic.

Location Map of Sudan ex
http://www.faculty.fairfield.edu/faculty/hodgson/Courses/so191/Projects2007/Mannix/part1.html

[A woman] who has travelled from the village of Adong to get to the clinic has 4 children, and 3 of them have had kala azar. She says many families cannot afford the trip to the clinic even when their children are very sick.

[The outbreak has probably been unfolding over several years. ProMED-mail reported increasing numbers of patients already in 2002 and 2003 (see below). The present news release from the BBC underlines that the control measures over the past 8 years have not succeeded.

Leishmaniasis is associated with malnutrition and HIV, and we have no information on the HIV prevalence in patients with leishmania in the area or the rate of malnutrition.]

CASES OF VISCERAL LEISHMANIASIS ON THE RISE IN AL QADARIF STATE, EASTERN SUDAN

Source: Sudanjem.com [edited] 8 Apr 2011 reported on ProMED Mail 11 Apr 2011
Cases of visceral leishmaniasis, or kala azar, in Gedaref [Al Qadarif] state, have increased to more than 5550 cases. The total number of deaths is now more than 142 a year, increasing by 10 to 15 deaths a month and medical sources fear that the disease is turning into a pandemic.

Medical sources familiar with Gedaref (Al Qadarif) state preferred to withhold the name of the newspaper printing the information on the campaign, saying they are classified sources. The campaign aims at eradicating the [sand] flies that transmit the disease by the end of May [2011], and is estimated to cost 71 000 [Sudanese] pounds [about USD [27 000].

Er Rahad [in North Kurdufan state] is one of the areas hardest hit by the disease, with 80 percent of the state of Gedaref's [Al Qadarif's] total.

[The article] reports that the campaign will start with the environmental sanitation situation, the eradication of stray dogs who are [the redservoir of the disease], along with a campaign to cut trees that create breeding areas for the [sand] flies.

[Translator notes:
Er Rahad is a town in North Kurdufan state in central Sudan, 30 kilometres [18.6 mi] south of El Obeid. The state of Al Qadarif is right on the eastern border of the Sudan with Ethiopia. - Corr.SB]