



Newsletter - December 2010

Happy New Year!! I hope you've all had a relaxing, enjoyable festive season and didn't get swept away in the frenzy of the Boxing Day sales. As you're all probably well aware, the mozzies have not been taking a break and are plentiful in number following the recent rains in many parts of the country.

SAMPLES

During December, a total of 857 samples were collected by staff from 12 public health services, with 169 positive. Sampling numbers were about the same as last month only with more positives, and up on last year. The specimens received were as follows:

Species	Adults	Larvae
<i>Aedes antipodeus</i>	4	0
<i>Ae. notoscriptus</i>	43	899
<i>Culex pervigilans</i>	17	1391
<i>Cx. quinquefasciatus</i>	57	453
Exotics	0	0
TOTAL	121	2743

INCURSIONS/INTERCEPTIONS

During December, there were two interception callouts. The first involved an *Aedes antipodeus* female captured at MAF Quarantine buildings and the second a *Culex pervigilans* male suspected to have come off a flight from Tonga, both at AIAL.



TICK-BORNE DISEASES

TICK PARALYSIS, PET - AUSTRALIA, ALERT

Source: The Canberra Times [edited] <http://www.canberratimes.com.au/news/local/news/general/vets-struggle-to-keep-up-with-ticks/2034674.aspx> 27 Dec 2010 reported on ProMED Mail 29 Dec 2010

Canberrans might think twice about taking their pets on holiday this year [2010], due to a severe outbreak of paralysis ticks.

Unseasonally humid weather has created such perfect breeding conditions for the pests that veterinarians are struggling to treat pets fast enough.

Sydney clinics have run out of anti-venom serums. South Coast veterinarians are working through the night to nurse paralysed patients. Some animals have died.

Moruya Veterinary Hospital veterinarian Dr Janelle Dunkley said her staff normally treated about 40 cases in November before these cases generally eased by Christmas. This year [2010] they treated 68 cases in November and a similar number in December, including a foal and some alpacas.

"We've lost about 6 pets [compared to one in 2009] and certainly the severity of the ticks is quite bad," Dr Dunkley said. "[The pets] seem to be quite respiratory-affected. Their larynxes are paralysed and they can't breathe. So we're having quite a bit of trouble saving them. We've had to put a lot on respirators. Others we've had to give quite intensive care."

Dr Dunkley said ticks latched on to the skin of an animal and sucked its blood, releasing toxins into the bloodstream via their saliva. The toxins could be cleared from the bloodstream reasonably quickly using an anti-venom. But if



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too much time was lost, the toxins could enter muscles and make it very hard to save an animal's life.

Signs in pets included tiredness or reluctance to exercise, wobbly hind legs, excessive panting, grunting noises, or full paralysis.

They are signs [a couple from] Deua River Valley knows all too well. At their property just outside Moruya, they find a tick a week on at least one of their 4 dogs. Their cat recently spent 4 days in hospital on a drip after a tick bite. "We knew something was wrong because the cat went missing and we couldn't find her anywhere," the man said. "We eventually found her all curled up under the shed, unable to meow because her throat had been paralysed."

[Tick paralysis is caused by over 40 species of ticks worldwide (5 in North America, including the deer tick) and can occur in almost any region where ticks are found. It has killed thousands of animals, mainly cows and sheep, in other parts of the world. Although tick paralysis is of concern in domestic animals and livestock, human cases are rare and usually occur in children under the age of 10.

Tick paralysis occurs when an engorged and gravid (egg-laden) female tick produces a neurotoxin in its salivary glands and transmits it to its host during feeding. Experiments have indicated that the greatest amount of toxin is produced between the 5th and 7th day of attachment (often initiating or increasing the severity of clinical signs), although the timing may vary depending on the species of tick.

Unlike Lyme disease, ehrlichiosis, and babesiosis, which are caused by the systemic proliferation and expansion of parasites in their hosts long after the offending tick is gone, tick paralysis is chemically induced by the tick and can therefore continue only in its presence. Once the tick is removed, symptoms usually diminish rapidly. However, in some cases, profound paralysis can develop and even

become fatal before anyone becomes aware of a tick's presence.]

MIDGE-BORNE DISEASES

LEISHMANIASIS, CUTANEOUS - AUSTRALIA: NEW VECTOR

Source: Xinhua News Agency [edited] <http://news.xinhuanet.com/english2010/health/2010-12/22/c_13660121.htm> 22 Dec 2010 reported on ProMED Mail 29 Dec 2010

Leishmaniasis can be transmitted by biting midges.

Australian researchers said Wednesday [22 Dec 2010] they have found a deadly parasite can be transmitted by more than one species of insect, raising hopes the discovery could save lives. The leishmaniasis parasite causes a disease that leads to large ulcers forming on the skin.

According to Menzies School of Health researcher Deborah Holt, no human cases have been recorded in Australia since the leishmaniasis parasite was discovered in Australia 7 years ago. The [strain] of parasite in Australia has only infected kangaroos and wallabies.

Scientists believed the disease could only be transmitted by sandflies, but Dr Holt said research shows biting midges can also act as a vector. Tens of thousands of people around the world are infected by leishmaniasis [parasite] every year and thousands die.

"That's the 1st evidence anywhere in the world that an insect other than a sandfly is capable of transmitting the parasite," she told ABC News on Wednesday [22 Dec 2010].

"This raises real possibilities that there are other insects involved and that may be a reason why some of the control programs don't work as well as they would be expected to." And in addition there are some places in the world where the vector is unknown and they cannot find evidence that they are being



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transmitted by sandflies. And now we believe that this may be because they are being transmitted by another insect."

Holt said if a deadlier strain was to enter the country from overseas, it could pose a significant risk to people.

[The information in the news release is based on studies so far only available at the Australian Department of Agriculture and Fisheries website (<<http://www.daff.gov.au/animal-plant-health/emergency/wedpp/leishmania-int>>).

The study indicates that the new species of *Leishmania* identified in Australia (Dougall A et al. New reports of Australian cutaneous leishmaniasis in Northern Australian macropods. *Epidemiol Infect.* 2009 137(10): 1516-20; abstract available at <<http://www.ncbi.nlm.nih.gov/pubmed/19288959>>) is transmitted by biting midges and not by sandflies. The midges have been identified as "day feeding midges of the *Lasiohelea* spp., with a prevalence of up to 15 percent from a new undescribed species." Biting midges are small flies belonging to the order Diptera, and other biting midges are vectors of bluetongue and African horse sickness.

If confirmed, the finding indicates that this group of insects could also be vectors in other parts of the world, which will have implications for control programs. - Mod.EP]

Mozzie Photo of the Month

Joe Coehlo is compiling a database of insects which feature in Rock and Roll album cover art. Mosquitoes have featured several times according to the current list on his website

<http://www.showmejoe.com/research/coverart.htm>. A selection of the mosquito covers has been included below.

