



BORDER HEALTH NEWSLETTER - JANUARY 2012

WELCOME!

Hi everyone. It's that time again, another month has passed and we are already well into February. I hope that you are finding time to hunt out those mozzies as life becomes even more hectic with schools going back, traffic on the increase and the year well and truly underway. It's been a sparse year for mozzies in this part of Canterbury so far, as despite the regular rainfalls at the beginning of the season, the area is fairly dried up now, although I know much of the country cannot say the same.

INCURSIONS/INTERCEPTIONS

There was only 1 interception during January. This involved an adult female *Culex australicus* being found dead on the ledge of a ship ex Melbourne, Australia while at the Ports of Tauranga.

Photo of the Month



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Photo of adult female and information on *Culex australicus* ex

http://medent.usyd.edu.au/arbovirus/mosquit/culex_australicus.htm

Culex australicus as the name suggests is found within most of the Australian states and is widespread in New South Wales and Victoria. This species does not usually attack humans and appears to feed predominantly on rabbits and birds. It is not considered of much vector importance because of because it doesn't bite humans, however it has been shown to carry

Murray Valley encephalitis (MVE) in the laboratory and both Kunjin and MVE have been isolated from adult collected in the wild.

Interestingly and unlike most adult female mosquitoes, this species is collected more in unbaited light traps than those baited with carbon dioxide using dry ice.

SAMPLES

During January, 652 samples were collected by staff from 12 District Health Boards, with 175 positive. Sampling numbers were about the same as last month and slightly down on this time last year. The specimens received were:

Species	Adults	Larvae
NZ Mozzies		
<i>Aedes antipodeus</i>	2	0
<i>Ae. australis</i>	0	2
<i>Ae. notoscriptus</i>	179	2002
<i>Coquillettidia iracunda</i>	2	0
<i>Culex pervigilans</i>	22	1733
<i>Cx. quinquefasciatus</i>	35	764
<i>Opifex fuscus</i>	0	39
Exotics		
<i>Culex australicus</i>	1	0
TOTAL MOSQUITOES	241	4540

WEBSITE

The SMS NZB website continues to be the easiest option for sourcing mosquito species information and any sampling or specimen resources that you may require.

The newsletters are readily available in the documents section of the website (<http://www.smsl.co.nz/Documents++Links/Newsletters/NZBEL+2012.html>). If there is any information you would like to see in the newsletter that is not currently included, or if you have any queries about any of the information, please feel free to contact us through the website, or email us directly at enquiries@smsl.co.nz or taxonomy@nzbiosecure.net.nz.



NEW ZEALAND BIOSECURE

Entomology Laboratory



TICK-BORNE DISEASES

LYME DISEASE - UK: BORRELIA POSITIVE TICKS

Source: BBC News [edited] 24 Jan 2010
<<http://www.bbc.co.uk/news/health-16706942>> reported on ProMED Mail 30 Jan 2012

Ticks that can transmit Lyme disease may be more prevalent in the UK than realised, say researchers who have found out how many dogs harbour them.

Experts have suspected for some time that the UK has a growing problem with these tiny pests - rates of the disease have been creeping up in recent years. In 2010 there were 953 reported cases in England and Wales.

Now, after doing random checks on over 3,500 dogs, Bristol University experts suspects the problem is even bigger. Of the 3,534 pet dogs inspected at veterinary clinics in the UK between March and October 2009, 14.9% had ticks. Of these, 2.3% turned out to be infected. The expected prevalence of infected ticks on dogs is 0.5% or 481 infected ticks per 100,000 dogs.

This suggests that the prevalence of this *Borrelia* infection in the UK tick population is considerably higher than previously thought, the researchers report in the journal *Comparative Immunology, Microbiology and Infectious Diseases*.

Faith Smith, who led the research, said: "Lyme disease appears to be a rapidly growing problem in the UK with important health and economic impacts in terms of loss of working hours and potential decrease in tourism to tick hotspots.

"Without considerably better surveillance and routine diagnostic testing, Lyme disease is only likely to become more prevalent. In particular, future warmer winters might well extend the period over which ticks are active seasonally, while growing wild reservoir host populations,

such as deer, will allow the tick population to expand."

A bite from an infected tick can take between two days and four weeks to show and anyone who has been bitten should look for a "bull's eye" type red rash appearing around the bite. You may also experience flu-like symptoms, such as tiredness, headaches and muscle or joint pain. Untreated, Lyme disease can spread to the brain, heart, and joints and in extreme can cause nerve damage, paralysis and blindness.

Ticks are very small - about the size of a poppy seed - and can easily be overlooked. Most ticks do not carry the infection, but they should be removed promptly if found. They can be removed with tweezers or special tick hooks, pulling gently upwards away from the skin. People who develop a rash or other symptoms after a tick bite should consult their GP.

A spokeswoman from the Health Protection Agency said it was important that people realise the risks and remain "tick aware". "They are out there in woodland areas." She said it was best to keep to footpaths and avoid long grass where possible when out walking and to cover up the skin. Also, brush off clothes and pet's coats before returning indoors to remove any unattached ticks that might later seek a feed.

[Lyme borreliosis (Lyme disease) is the most common human tick-borne infectious disease in the northern hemisphere, occurring predominately in temperate regions of North America, Europe and Asia. It is caused by pathogenic genospecies of the spirochete, *Borrelia burgdorferi* sensu lato group. Vectors of *B. burgdorferi* are hard-bodied *Ixodes* ticks, and various small and medium-sized mammals and ground-feeding bird species are reservoir-competent hosts.



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The species of tick, the host species, borrelial genospecies and carriage rates of borreliae in ticks all vary according to the geographical location. *B. burgdorferi* sensu stricto is the only pathogenic species identified in North America. It also occurs in Europe but is less prevalent in most regions than *B. garinii* or *B. afzelii*, the two major European pathogenic genospecies; All are present in the United Kingdom (UK), and *B. garinii* appears to be the most prevalent pathogenic genospecies in most endemic areas of this country

(<http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1309968694565>).

In Europe, *B. burgdorferi* genospecies that cause Lyme borreliosis are mainly transmitted by the tick *Ixodes ricinus*. In a literature review of studies of the prevalence of *B. burgdorferi* sensu lato in *I. ricinus* ticks in various European countries, the overall mean prevalence of *B. burgdorferi* in ticks was 13.7%; For the UK the prevalence ranged from 3.9 to 8.5 (<<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1287732/>>).

Increases in incidence of Lyme disease are likely the result of several factors that include: 1) greater recognition, 2) improved reporting, as well as 3) a true increase in disease incidence due to more people living in suburban neighborhoods near wooded areas with enlarging populations of deer, which, although not susceptible to Lyme disease, supply the adult tick with a required blood meal, enlarging populations of both the white-footed mouse and other small rodents (the primary reservoirs for Lyme disease) and spirochete-infected nymphal *I. scapularis*, the primary vector for Lyme disease in the northeastern and upper Midwestern US, and climatic conditions that favor proliferation of the tick, mouse and deer populations.

Lyme disease is endemic in many parts of the UK, particularly in woodland and heath-land areas, and occasional cases are acquired in peri-urban parks and recreational areas with

suitable habitat. In the UK, the mean annual incidence rates for laboratory-confirmed cases have risen from 0.06 per 100,000 total population for the period 1986 to 1992, to 0.64 cases per 100 000 total population in 2002, to 1.1 cases per 100 000 total population in 2005 (<<http://www.patient.co.uk/doctor/Lyme-Disease.htm#ref3>>).

Lyme disease became nationally notifiable in 1991 in the United States. The annual number of confirmed cases reported to the CDC in the United States has steadily risen, for example, from 17,730 cases in 2000 to nearly 30,000 in 2009, i.e., an annual incidence rate of approximately 10 per 100 000 in 2009 (<http://www.cdc.gov/lyme/stats/chartstables/reportedcases_statelocality.html>).

Much higher incidence rates are reported focally in the northeastern and upper mid-western states, e.g., 78 per 100 000 in the state of Connecticut in 2009 (<<http://www.cdc.gov/lyme/stats/chartstables/incidencebystate.html>>).

Dogs living in endemic regions can develop Lyme disease (<<http://pets.webmd.com/dogs/lyme-disease-dogs-canine-lyme-disease>>). Many dogs exposed to Lyme disease do not become ill but develop serologic evidence of infection. The dominant clinical feature of Lyme disease in dogs is recurrent lameness due to inflammation of the joints.]



Ixodes ricinus adult female photo ex <http://www.tamarvalley.org.uk/blog/2011/03/are-you-tick-aware/>