



BORDER HEALTH NEWSLETTER - JUNE 2011

WELCOME!

Hi everyone. We are past the shortest day and already I am noticing it getting lighter slightly earlier in the mornings, but the proper cold does not really seem to be here yet. May and June have been warmer than average, May being the warmest May and June being the third warmest on record. This is reflected a little in the prevalence of *Culex quinquefasciatus* over the last month which has been collected as adults but would usually overwintering at this time of the year. Another example of unusual activity was noted with high numbers of Chironomid midges in some areas, usually we do not see that until September. If the warmer wet weather persists into spring we could see mosquito numbers increasing earlier and peaking higher than usual in the high season so it may be worth preparing for larger numbers of complaints.

As always, report any unusual biting activities to the lab via the taxonomy email

INCURSIONS/INTERCEPTIONS

There were two interception callouts during June.

The first was on the 22nd where a specimen was collected from a container by MAF officers in Auckland, however the specimen was so badly damaged that it was not possible to identify

The second was on the 26th where unusually high numbers of flying insects were noted at Ports of Auckland. Some were collected as a precaution in case they were mosquitoes but all turned out to be chironomid midges

An aside: A tick was collected from an individual who had been travelling in the US. It turned out to be *Amblyomma americanum*, more commonly known as the Lone Star Tick. This species commonly occurs in wooded areas

particularly forests with bushy undergrowth and is often found biting humans and other mammals. It is known to vector a couple of Ehrlichiosis diseases, Tularemia and a new disease called Southern tick-associated rash illness (STARI) – none of which are particularly common. But is not believed to be a good vector of Lymes disease.

SAMPLES

During June, 394 samples were collected by staff from 11 District Health Boards, with 56 positive. Sampling numbers were pretty much the same as last and up slightly on this time last year. The specimens received were:

Species	Adults	Larvae
NZ Mozzies		
<i>Aedes antipodeus</i>	6	0
<i>Ae. notoscriptus</i>	0	733
<i>Aedes australis</i>	0	2
<i>Culex pervigilans</i>	3	111
<i>Cx. quinquefasciatus</i>	13	246
<i>Opifex fuscus</i>	0	4
<i>Aedes subalbirostris</i>	0	2
Exotics		
TOTAL MOSQUITOES	16	1098



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TICK-BORNE DISEASES (For a change)

Date: Mon 20 Jun 2011

Source: Sibkrai.ru News Agency [in Russian, trans. Corr.ATS, edited]

<<http://sibkrai.ru/news/2011-6-20/16447/>>

TICK-BORNE DISEASE - RUSSIA: (NOVOSIBIRSK) TICK-BORNE ENCEPHALITIS & LYME DISEASE

According to the regional Rospotrebnadzor [Federal service for consumer protection and human welfare], 16 439 people have reported tick bites as of 17 Jun 2011, which is a considerable increase over the figure of 11 547 tick bites reported during the same period of the preceding year [2010]. A total of 3861 (23.4 percent) of the cases of tick bite involved children under the age of 14 years.

In all, 379 people have been hospitalized with suspected tick-borne encephalitis (TBE), a figure that includes 35 children under 14 years of age. In 49 cases, the diagnosis of TBE has been confirmed by laboratory analysis.

In addition, there were 63 confirmed diagnoses of tick-borne borreliosis (Lyme disease).

During the 1st 6 months of 2011, there have been 3 fatalities as a consequence of TBE. None of them had been immunized against TBE virus infection. One of the TBE cases received emergency prophylaxis with TBE virus immunoglobulin, but the patient did not survive. All 3 fatal cases were residents of Novosibirsk city. Only one of them actually recalled having been bitten by a tick.

Date: Sun 22 May 2011

Source: GazetteXtra.com [edited]

<<http://gazettextra.com/news/2011/may/22/lyme-disease-cases-rise-rock-county/>>

LYME DISEASE - USA (03): (WISCONSIN), HUMAN, CANINE

Gracie was a happy and healthy 4-year-old dog who enjoyed walks and tearing around her yard. Then Gracie changed. "She could hardly get up from her bed. She could hardly stand," [a woman] of Janesville said of her golden and Labrador retriever mix. Gracie continued favouring different legs and plopping onto the floor, causing [her owner] to take her to a veterinarian. The diagnosis: Lyme disease.

Lyme disease is on the increase among people in Rock County, and it's a common diagnosis in their pets, too. Veterinarian Terence McSweeney of All Creatures Small Animal Hospital in Janesville said about 5 percent of the new patients he tests for Lyme disease have positive results.

Debbie Erickson of the Rock County Health Department said Lyme cases in the county have increased in people, with 48 cases reported in 2010, compared to 28 in 2009. Statewide, Lyme disease cases totalled 3495 in 2010, compared to 2587 in 2009, a 35 percent increase, the state Department of Health Services reported.

Lyme disease impacts the skin, nervous system, heart, and joints. [It is caused by bacteria that] spread through bites from infected deer ticks. More than 20 000 cases of the disease have been reported in Wisconsin residents since 1980, according to the health services department. Symptoms of Lyme disease include fever, aches, arthritic pain, and neurological problems, Erickson said. Antibiotics are used to treat the disease.

Most Rock County residents contract Lyme locally, even though the disease is more common in northern Wisconsin, she said. "We definitely have deer ticks with Lyme in Rock County," Erickson said. "We have had clients that have had pretty severe side effects from the disease."



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McSweeney said he screens pets he sees in his office. He said many dogs with positive tests don't show symptoms [clinical signs]. He said the disease leads to kidney failure. "I think it's a problem, particularly in this area," McSweeney said. "I think it's very important from March through November to have your dog on a flea or tick preventative." People and pet owners are becoming more aware of the disease, Erickson and McSweeney said.

Gracie was taken to a veterinarian the same day she showed symptoms [clinical signs] and was put on antibiotics, Hanson said. "It was like a miracle," [her owner] said. "The next day, she showed no signs of lameness." She doesn't like to walk Gracie in the woods behind her house anymore and said that area is where she likely attracted Lyme. Since Gracie's treatment, she has had as much energy as ever, the woman said. "It is a happy ending," she said.

Lyme disease occurs 3 to 30 days after the bite of an infected tick. Symptoms in people include rash, fever, chills, fatigue, headache, joint pain, and swollen lymph nodes, according to the state Department of Health Services. The disease is treated with antibiotics.

To reduce the chance of getting Lyme disease:

- Avoid wooded and bushy areas with high grass and leaf litter. - Use tick repellants applied according to the label's instructions.
- Wear long-sleeved shirts and long pants to help shield you from ticks.
- Landscape homes and recreational areas to reduce the number of ticks. Create tick-safe zones using woodchips or gravel along the border between lawn and wooded areas.
- Check for ticks frequently.
- Remove ticks slowly and gently, using a pair of thin-bladed tweezers
- Check pets before allowing them inside.
- Speak to a veterinarian about tick repellent for pets.

Date: Wed 29 Jun 2011

Source: Shakopee Valley News [edited]

<http://www.shakopeenews.com/view/full_story/14512744/article-Minnesota-records-first-death-from-tick-borne-Powassan-virus>

POWASSAN VIRUS, ENCEPHALITIS - USA: (MINNESOTA) FATAL

A woman in her 60s from northern Minnesota has died from a brain infection [presumed to be encephalitis] due to Powassan (POW) virus infection. This is the 1st death in the state attributed to the disease.

One other likely POW virus infection case has been identified this year [2011] in Minnesota, in an Anoka County man in his 60s who was hospitalized with a brain infection and is now recovering at home. POW virus is transmitted through the bite of an infected tick.

Both 2011 cases became ill in May after spending time outdoors and noticing tick bites. The fatal case was likely exposed to ticks near her home. The case from Anoka County might have been exposed near his home or at a cabin in northern Minnesota.

Health officials say this death serves as a reminder of the vital importance of preventing tick bites.

"Although Powassan cases are rarely identified, it is a severe disease which is fatal in about 10 percent of cases nationwide, and survivors may have long-term neurological problems" said Dr Ruth Lynfield, state epidemiologist with the Minnesota Department of Health (MDH).

"Powassan disease is caused by a virus and is not treatable with antibiotics, so preventing tick bites is crucial."

In Minnesota, POW virus can be transmitted by the blacklegged tick (also called the deer tick),



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which can also carry Lyme disease, anaplasmosis, and babesiosis. The blacklegged tick is abundant during our warm weather months in hardwood and mixed-hardwood forests of Minnesota. When a tick infected with POW virus attaches to a person, it might take only minutes of tick attachment for the virus to be transmitted.

POW virus infection was first detected in Minnesota in 2008, in a Cass County child who was exposed near home. In 2009-2010, 5 additional POW cases were identified in Minnesota. These cases were likely exposed to infected ticks in north-central or east-central counties (Cass, Carlton, Hubbard, Itasca, or Kanabec). In addition to these human cases, MDH has found POW-infected ticks in northern counties (Cass, Clearwater, and Pine) and in southeastern Minnesota (Houston County).

POW virus was first described in 1958 in Powassan, Ontario. Since then, about 60 cases have been identified in North America. Most of these cases were from eastern Canada and the northeastern USA until the last decade, when cases began to be reported from Michigan, Wisconsin, and now Minnesota.

POW virus is related to West Nile virus (WNV). Like WNV, POW virus can cause severe disease of the central nervous system, involving inflammation of the brain (encephalitis) or the lining of the brain and spinal cord (meningitis). People with POW may have fever, headache, vomiting, weakness, confusion, loss of coordination, speech difficulties, and memory loss. Signs and symptoms occur within 1 to 5 weeks of an infectious tick bite.

To prevent tick-borne diseases, always use tick repellents containing DEET (up to 30 percent concentration) or permethrin when spending time in tick habitat. Products with DEET can be used on the skin or clothing. Permethrin-based products, which are only applied to clothing, are highly effective

and can last through several washings and wearings. Also, wear long pants and light-colored clothing to help detect and remove ticks before they've had time to bite. People with homes or cabins near the woods can also use landscape management and targeted pesticide applications to reduce exposure to disease-carrying ticks.

After returning from outdoors, check your body carefully for ticks and promptly remove any you find. The process of bathing or showering shortly after returning indoors can help remove ticks before they bite or before they've been attached for long.

The back end of the adult female blacklegged tick is reddish-orange in appearance and teardrop-shaped. The nymph, or immature, stage of the blacklegged tick is about the size of a poppy seed and dark-colored. It is so small that it often goes unnoticed. When the nymph is noticed, it is easily mistaken for a speck of dirt or small freckle on people's skin. Blacklegged ticks are smaller and darker in color than American dog ticks (also known as wood ticks). They also lack the dog tick's characteristic white markings. To remove a tick, use tweezers to grasp it by its head close to the skin and pull it out gently and steadily.

More information about Minnesota's tickborne diseases, including details on tickborne disease prevention and pictures of ticks, is available on the MDH Web site at <http://www.health.state.mn.us/divs/idepc/dto/pics/tickborne/index.html> or by calling MDH at 651-201-5414

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Communicated by: ProMED-mail
<promed@promedmail.org>

[According to the Minnesota Department of Health website one type of POW virus is carried by *Ixodes scapularis* (known as the blacklegged tick or deer tick), the



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same tick that transmits Lyme disease, human anaplasmosis, and babesiosis. The blacklegged tick is common in many wooded areas of north central, east central, and southeast Minnesota.

Another type of POW virus is carried by *Ixodes cookei*, a related tick species that usually feeds on woodchucks or other medium-sized mammals instead of humans. *I. cookei* has also been found in wooded areas in Minnesota.

A tick needs to be attached to a person for a certain length of time before it can cause disease. Contrary to the information in the press report above, this time interval is not

known for POW virus, but it may be shorter than the attachment time needed for Lyme disease (24-48 hours) or anaplasmosis (12-24 hours).

The website includes a scaled illustration of adults and a nymph of the blacklegged tick vector of Powassan virus.

The HealthMap/ProMED-mail interactive map of the state of Minnesota can be accessed at <http://healthmap.org/r/00DI>. A Minnesota county map can be seen at:

<http://www.digital-topo-maps.com/county-map/minnesota.shtml>.

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Photo of the Month



Lone star tick nymph and adult female

The nymphal stage of the lone star tick (*Amblyomma americanum*), left, is much smaller than the adult female and lacks the white spot.