Lyme disease: A growing concern

Story and photos by Lil Anderson

The first I heard that Lyme disease might be of concern in the Lake of the Woods area was in the early '90s. At that time, Dr. John Scott from the Lyme-Borreliosis Support Group of Ontario contacted a co-worker, local veterinarians, and myself, requesting we collect blacklegged ticks from pets or other mammals and birds if we came across them in our work.

This research inevitably proved that the blacklegged deer tick, *Ixodes scapularis*, which is a vector for Lyme, had widespread distribution outside area around Long Point, Ontario, where Lyme disease was known to be endemic, and was indeed found in the Kenora area.

Lyme disease (Ld) is an infection caused by a corkscrew shaped bacteria (*spirochete*) called *Borrelia burgdorferi* (Bb). This bacterium is well documented in the blacklegged tick (deer tick), but the 1995 research published by John Scott et al[1], showed instances of beaver tick (*Ixodes banksi*) and squirrel tick (*Ixodes marxi*) carrying the bacteria as well.

In an article published in the *Journal of Parisitology* in 2012[2], his research confirmed that 6 different passerine-feeding (bird) *Ixodes* ticks also carried Bb. Spring bird migrations mean that no area should be considered safe from the establishment of Lyme. Canadian government officials remind people to take precautions in endemic areas along the north shores of Lake Ontario, Lake Erie and the St. Lawrence River, but this advice would seem to be short sighted considering infected ticks have been found in all ten provinces and many confirmed cases are in people who have never been to the 'endemic' areas.

In 2006, the Public Health Agency of Canada sponsored a meeting of national and international scientific experts on Lyme disease, communication experts, provincial representatives and representatives from the Canadian



The American dogtick or wood tick is the most common tick in this area. It is much larger and has a decorated shield on its back which helps identify it from blacklegged ticks.

Lyme Disease Foundation and the National ME/FM Action Network. At this meeting, Joan McCormas, from the Canadian Lyme disease Foundation, presented information on behalf of John Scott regarding the role songbirds play in transporting known vector ticks across Canada.

While a wide range of mammals found in Canada can host vector ticks, the white-footed and deer mouse are prominent hosts of sub-adult vector ticks and are the reservoirs for Bb. White-tailed deer, while not competent reservoirs for the bacterium, do host all three motile life stages of *I. scapularis* and *I. pacificus*. But the fact that songbirds disperse and transport the ticks means that one does not need to be in the endemic areas to contract the disease. It appears that the three main flyways for migrating birds, the Atlantic, the Mississippi and the Pacific, transect Lyme disease-endemic areas in the northeastern U.S, the upper Midwest



While deer may amplify the host blacklegged ticks, they do not spread the bacteria. Deer mice like these harbour *Borrelia burgdorferi* and transmit it to blacklegged ticks when they feed on the mouse.

and the West Coast, respectively.

Lyme is a very deceptive disease, and is often mistakenly diagnosed, depending on the symptoms at the time, as anything from the flu to Lou Gehrig's disease, meningitis, arthritis, Bell's palsy and multiple sclerosis. Its symptoms include fevers, chills, fatigue, joint pain, nervous system disorders, swollen lymph nodes, partial facial paralysis and heart irregularities. In a personal communication, Dr. Scott said it was like muscles and tendons were 'caviar' for the bacteria. He described Bb as being an incredibly adaptable entity that can live in any living system, warm or cold blooded.

If left untreated in humans, there can be serious health consequences. Early symptoms can occur within three days of a tick bite or as long as one month. If a person who suspects they have been bitten by a blacklegged tick develops any of the above symptoms and/or a bull's eye type rash, seek medical advice. If detected early, Ld can be treated with antibiotics.

Just recently Dr. Scott contacted me, again seeking ticks. Not the general run of the mill American Dog tick or 'wood tick' (*Dermacentor variabilis*) we are all familiar with, but the types that most folks are not familiar with... rabbit ticks (*Ixodes dentatus*), groundhog ticks (*Ixodes cookei*), beaver ticks (*Ixodes banksi*), mouse ticks (*Ixodes muris*), squirrel ticks (*Ixodes marxi*), raccoon ticks (*Ixodes texanus*) and of course deer ticks (*Ixodes scapularis*). While their common name indicates their usual preferred host, they feed on many different mammals. Health units will only test ticks that are identified as blacklegged deer ticks and only if they have bit a human, so while other *Ixodes* carry Bb, the medical communities efforts are only directed towards the one species. John believes they all should be tested as vectors for the disease.

You see, Dr. Scott and his wife have a vested interest in this disease... they have both suffered its effects for over 30 years. As part of the Research Division of the Lyme Disease Association of Ontario, Dr. Scott has published and co-published many research papers on Ld, spending tens of thousands of hours researching, collecting and analysing data. Despite his incredible knowledge of the disease, even he cannot stop the ravages of the disease.

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Closer to home, I have seen first hand what Ld can do to people. A friend suffered from Ld for over 30 years, having been diagnosed with such conditions as fibromyalgia, chronic fatigue, Bell's Palsy, environmental allergies and so on. As an owner of a remote tourist lodge and registered trapper, she found she was unable





An informational card from the Northwestern Health Unit warning about blacklegged deer ticks and Lyme disease.

to keep up with the everyday tasks required of her. While treatments have helped somewhat, she still battles the disease.

My sister in law, Jan, a landscaper and again a registered trapper, was hit with a number of symptoms that could not be explained or treated. She, too, went through a series of misdiagnoses. Our family could only watch and wonder as this strong, vibrant lady became so wracked with pain and confusion, she struggled through her day-to-day life. In Jan's case, we stumbled upon a possible cause after I reconnected with my childhood friend, Carol, now living in Philadelphia.

Carol had suffered with Ld for years as well, and so many of her symptoms were what Jan was going through. Carol's initial symptoms were swollen glands and extreme fatigue that lasted for weeks. She tested negative for mono and Ld at that time, but the physician neglected to tell her to be tested again for Lyme in a few months. Carol went through what many Lyme sufferers experience—depression, brain fog and cognitive problems. Later symptoms were sore joints, rolling muscle aches and 'hot spots' on hands and feet. She finally was diagnosed in 1999 with the disease.

Carol still struggles but has found some relief. As she put it, and as I have heard the same from others with the disease, she thought she was losing her mind and was afraid to tell people what was happening. She couldn't even force herself to read up about the disease, she was so distraught. She said it was important that family be very supportive to the sufferer to help them through it.

When I relayed Carol's experience to Jan, there were enough similarities for her to seek out a test for the disease. And with the current attitude of many in the medical communities, seeking help for Ld is in itself a challenge. Jan finally was diagnosed by not only going out of province but also out of country.

Since Jan was diagnosed, there have been several more confirmed cases in the Kenora area. The unfortunate fact with most, if not all, of the confirmations, the afflicted had to seek help from outside the local medical community for diagnosis and treatment. And while Ld is a reportable disease, it would seem that those cases diagnosed outside of Canada are not considered in the statistics of cases reported. One only has to research Ld to realize there is a definite pattern to what the sufferers go through to be diagnosed and treated, even in areas where Ld is recognized as endemic.

I recently recertified for my First Aid and was very disappointed to hear the instructor inform the young staff who would be soon heading out into the woods that we did not have to worry about the ticks around here, as we did not have deer ticks, only wood ticks. I did inform him otherwise, but I am not sure that the message will get out to those that need to hear it. And I find that disturbing having seen what affects the disease has on not only the afflicted, but also the families and friends of those who are afflicted.

One sufferer has chronicled her battle with the disease in her soon to be published book, *Rain on a Distant Roof* (*www.lymediseasebook.com*). Vanessa Farnsworth describes *Borrelia burgdorferi* "as an organism that researchers have likened to a creature from outer space. A bacterium that shares features with a parasite, one minute it looks like an invading bacterium, the next it's indistinguishable from a heart cell, a neural cell, or a synovial cell. It's the stuff of science fiction, and yet this bacterium is alive and well and living in the bodies of many Canadians where it causes Lyme disease, an illness that is itself enigmatic."

Farnsworth writes: "Sometimes at night when sleep refuses to come, I lay flat on my stomach and listen to the sounds in my neck. They are strange sounds, like those a rowboat makes as it grinds lazily against a wooden dock. I imagine tendons winding around bone; cartilage dissolving then reforming like slow-cooling rubber, veins twizzling like worms on hot cement. What's really happening during these moments is a mystery and one I haven't solved by combing through books or seeking the opinion of a qualified expert. There are no experts when it comes to Lyme disease."

Endnotes

1. *Lyme Disease Vector, Ixodes Scapularis has widespread distribution outside Long Point, Ontario.* J.D. Scott, S.N. Banerjee, C.I. Christensen, E. Haber

2. *Widespread Dispersal of Borrelia Burgdorferi-infected ticks collected from songbirds across Canada.* John D. Scott, John F. Anderson and Lance A. Durden

Lil Anderson has written many nature articles and has authored two non-fiction books Beavers: Eh to Bea: Tales of a Wildlife Rehabilitator *and* Pond Memories: More Tales from a Wildlife Rehabilitator. *As well as being a freelance writer, Lil is also a nature photographer and a licenced Wildlife Custodian. She lives on their 230-acre property in Northwestern Ontario with her outdoor writer husband, Bruce Ranta, and their 'critters'.*

As a member of Kenora's Word on the Water Literary Festival, I would like readers interested in hearing more about her experiences with Lyme disease to know that we are arranging for Vanessa Farnsworth to visit Kenora during her book launch this fall. This event will be prior to and separate from the October festival. Details will be forth coming. Check out* www.wordonthewater.ca *later this year for 2013 updates and 'friend' us on Facebook for more details.