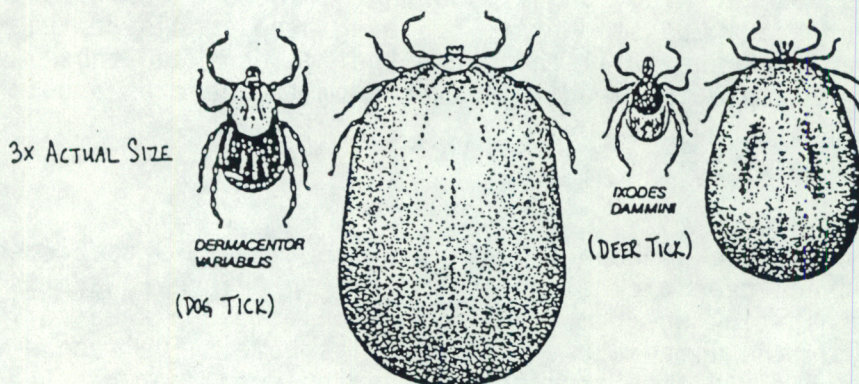


Lyme disease is a bacterially induced disease caused by the spirochete Borrelia burgdorferi. It is a condition that resides mostly in wild mammal populations. To affect humans it has to be introduced into the human blood stream; most authorities agree that deer ticks constitute the most effective vector for the transmission of the disease from wild mammals to people. Since it was first diagnosed in the early 1980s in Old Lyme, Connecticut, it has been confirmed in over 40 U.S. states and several provinces in Canada.

A research paper dealing with the long-range transmission of the deer ticks on birds has been published for the central flyway through Wisconsin. The figures at first glance, seem reassuringly low; one percent of all birds netted were infected with deer ticks and 22 % of those deer ticks were infected with B. burgdorferi.

Laboratory studies indicate that the dog or wood tick (Dermacentor variabilis) does not carry Lyme disease as efficiently as the deer tick. One study demonstrated that the dog tick metamorphoses from the larva to the nymph, the borrelia are lost. During the larval phase, borrelia were also shed at a rapid rate. Still there are some disquieting aspects about the dog tick situation. Lyme disease is endemic to regions where the dog tick is the primary tick. In Canada, Manitoba is the classic example. Five cases of Lyme disease have been reported in southern Manitoba where dog ticks are abundant and deer ticks are not reported.



There are undoubtedly more twists to the transmission routes of this disease than we are presently aware of. Mosquitos have been ruled out as vectors but tabanid flies are under suspicion. Another paper raised the spectre of a faecal route, principally through waterfowl, and one laboratory study detected the spread of the disease in contained mice where insects could not have been the factor; urine was the suspected agent.

This is a disease that cannot be described neatly; the manifestations vary enormously with the individual. A classic case would proceed through three phases. Phase 1 usually is noticed within days of an infected bite. Recent statistics suggest that 60% of victims develop a red skin rash (significantly bigger than the common "reaction" to a tick bite). Most victims complain of general flu-like malaise - fever, chills, headaches, stiff muscles and fatigue. Phase 2 can occur weeks to months after the initial infection and is characterized by various neurological problems. These can include violent headaches, nerve inflammations, Bell's palsy and, in a few cases, cardiac irregularities. In about 60% of patients, the disease progresses into phase 3