

New tick-borne disease discovered

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(Medical Xpress) -- Yale School of Public Health researchers in collaboration with Russian scientists have discovered a new tick-borne bacterium that might be causing disease in the United States and elsewhere. Their findings appear in the journal *Emerging Infectious Diseases*.

This new disease is caused by a spirochete bacterium called *Borrelia miyamotoi*, which is distantly related to *Borrelia burgdorferi*, the bacterium that causes [Lyme disease](#). Yale professor of epidemiology Durland Fish and colleagues found this new spirochete, previously known only from ticks in Japan, in [deer ticks](#) in Connecticut in 2001, but did not know if it caused disease in humans.

The bacteria have since been found in all tick species that transmit Lyme disease throughout the United States and Europe. By collaborating with a medical team studying tick-borne diseases in Russia, Yale researchers were able to compare disease symptoms in patients infected by the new spirochete in Russia with those having Lyme disease in the United States.

The new disease is characterized by [high fever](#), which relapses without treatment and may be confused with Lyme disease. There are currently no diagnostic tests available, but Yale researchers

have recently received a grant from the National Institutes of Health (NIH) to develop a diagnostic test procedure to look for cases of this new disease in the United States.

"This is the first time we will have a chance to identify a new tick-borne disease in the United States based upon evidence that the agent occurs in ticks," said Fish, co-author of the paper and co-investigator on the NIH grant along with Peter Krause, a senior research scientist in the Division of Epidemiology of Microbial Diseases.

They report finding *B. miyamotoi* in about 2 percent of the deer ticks in the Northeast and Upper Midwest and have been conducting experiments with mice in the laboratory that become infected when fed upon by deer ticks. Because bites from deer ticks cause more than 25,000 cases of Lyme disease each year, according to the CDC, the Yale team is gearing up to determine if there is any illness that is caused by *B. miyamotoi* infection in the United States.

Provided by Yale University

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