

Doctors warned to be vigilant for Lyme disease in Tennessee

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In 2015, Lantos and colleagues described cases of Lyme disease occurring in Tennessee. [2] Their study, *Geographic Expansion of Lyme Disease in the Southeastern United States, 2000-2014*, reported human [Lyme disease cases had expanded south](#), stretching along the eastern foothills of the Appalachian Mountains in nearby Virginia. Lantos also found infected deer ticks 100km away in the Tennessee Valley.

Two years later, in 2017, another team of investigators took an in-depth look at the prevalence of blacklegged ticks infected with *Borrelia burgdorferi* (*Bb*) in the Tennessee Valley. [Hickling and his team](#), from the University of Tennessee Institute of Agriculture, surveyed the forests of that region, dragging for ticks. The surveillance was conducted during the peak time of deer tick (*I. scapularis*) activity, October through January. [3] The nymphal ticks reside below the leaf litter during that period, making it difficult to detect.

The study looks at the prevalence of *Borrelia*-infected deer ticks in the Tennessee Valley.

The team collected 479 deer ticks from the upper Tennessee Valley. “We detected *I. scapularis* ticks in all 26 counties surveyed,” writes Hickling. Of these, 46 (9.6%) ticks were infected with *Borrelia* spp, the pathogen that causes Lyme disease. The infection rate was determined using a 6S rDNA PCR screening test.

The 46 infected ticks were identified in 4 counties (Anderson, Claiborne, Hamilton, and Union). Most of the infected ticks were found at 2 sites in Union County, which had prevalences of 44% and 78%.

The authors raise concerns that “immigrant ticks from the North” are emerging in the Tennessee Valley. “We speculate that *Borrelia*-infected *I. scapularis* populations emerging in southwestern Virginia include immigrant ticks from the North, with some nymphs in these populations exhibiting host-seeking behaviors that lead to contact with humans,” explains Hickling.

The authors stress the importance of looking out for infected deer ticks in the Tennessee Valley. “Health officials and practitioners need to be vigilant for increasing Lyme disease incidence in Tennessee.”

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[Hundreds of Lyme disease patients in Tennessee](#)

[CDC advises doctors to consider Lyme disease in emerging states](#)

[Don't let your guard down on questing ticks in the South](#)

[Culture evidence of Lyme disease in antibiotic treated patients living in the Southeast](#)

References:

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2. Lantos PM, Nigrovic LE, Auwaerter PG, et al. Geographic Expansion of Lyme Disease in the Southeastern United States, 2000-2014. *Open Forum Infect Dis.* 2015;2(4):ofv143.
3. Hickling GJ, Kelly JR, Auckland LD, Hamer SA. Increasing Prevalence of *Borrelia burgdorferi sensu stricto*-Infected Blacklegged Ticks in Tennessee Valley, Tennessee, USA. *Emerg Infect Dis.* 2018;24(9).

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