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## **Expert: Deer unfairly blamed for Lyme disease**

Kathy Bowen

Deer are not the Lyme disease equivalent of Typhoid Mary, according to a disease ecologist who has been studying ticks and tick borne illnesses for nearly two decades.

In fact, says Richard S. Ostfeld of the Cary Institute of Ecosystem Studies in Millbrook, the tick that carries Lyme disease should not even be called the "deer tick."

"The term deer tick is incorrect, there is no such thing," he said. "It was used in the 1980s and '90s when it was thought a brand new species of tick was spreading Lyme. In fact it's the black-legged tick that's responsible, and its population has been known for 150 years."

The black-legged tick has a two-year life cycle, with the larvae feeding on small animals, such as mice or chipmunks, in the spring of the first year. It feeds again the following spring when it is in the nymph stage, on any mammal -- mouse, dog, person -- and again in the fall as an adult, on people, dogs or deer.

But Ostfeld says the deer get a bad rap. White-tailed deer are not responsible for the spread of Lyme disease; in fact, their immune systems kill the bacteria and suppress the disease, he said. Ostfeld said his research concluded within the last year that deer are incapable of infecting ticks with Lyme, although they are often hosts for adult ticks.

"We don't know why, but the deer immune system clears the infection. When they get bit, they wipe out Lyme," he said. "Deer play a tremendous role in suppressing adult ticks from spreading the bacteria."

He said the ticks usually become infected when hosted by small animals and birds with the majority of illnesses occurring because of chipmunks and white-footed mice.

In the Capital Region, a high percentage of black-legged ticks are infected with the bacteria that causes Lyme, said George Robinson, an associate professor of biological studies at the University at Albany who tracks the spread of ticks locally.

"We did an extensive study in the Albany Pine Bush three years ago from spring through late fall," he said. "We found an infected rate of about 25 percent in nymphs and 50 percent of adult ticks indicating high rate of infection in animals."

Black-legged ticks are not born with disease, Robinson said. They get it when they feed on an infected animal or bird.

Robinson and Ostfeld warn that mid-June is peak time for contracting Lyme and other tick-spread illnesses, because this is when most ticks are in the nymph stage and searching for blood.

"They're old enough to possibly have the disease, and especially dangerous because they're so tiny," Robinson said. "You may never know you were bitten."

State Department of Health spokeswoman Claire Pospisil said state scientists believe 2010 will be a very active year for ticks. "But it should be clarified that not all ticks carry Lyme disease," she said.

Laboratories and counties report confirmed cases of Lyme disease to the state and the numbers have been on the rise in the Capital District over the past decade.

Robinson said the mild winter of 2009-2010 may increase the number of ticks this year.

"Cold winter exposure can kill them off," he said. "Mothers lay eggs in the surface soil or leaf litter and exposure to harsh conditions can kill the eggs."

Whether the tick picks up the disease depends on activity of the animals. A good food supply for mice and chipmunks will improve chances for tick survival.

Choice of a host animal will also help or hurt the tick population, according to Ostfeld.

"Good grooming will kill thousands of ticks in a season," he said. "Opossum are very good groomers and as they pull off the ticks they either eat them or pull the mouthparts off which means the tick will starve. Mice don't bother grooming, so they are very hospitable."

The best way to avoid tick bites is to keep the critters off the skin.

Pospisil said preparation for outdoor activities should include insect repellent, long sleeves and pants with socks pulled over the pant legs. Frequent checks to make sure ticks haven't attached is also suggested.

She said although a bull's eye rash is a sure sign for a Lyme disease diagnosis, the telltale spot is not always present with the illness.

Flu-like symptoms, including fever and painful joints that don't go away after a few days, could indicate Lyme disease and a blood test should be done to confirm the diagnosis.

Ostfeld said in addition to Lyme, two other illnesses are traced to ticks and both can be life threatening for the elderly or anyone with a compromised immune system.

"We've seen a rise in the number of cases of anaplasmosis and babesiosis cases," he said. "Anaplasmosis is a bacteria that causes high fever, severe headaches and lethargy, but no rash. It

used to be called ehrlichiosis. Babesiosis is a malaria-like protozoan which causes alternating chills and sweats. Both can overlap with Lyme and all three can be present in the same tick."

Glenville resident Gary Pratico never had the bull's eye indication and a number of doctors missed the correct diagnosis for a tick-related illness, according to his wife, Sally Racicot.

She said Pratico was bitten in 2003 by a tick carrying anaplasmosis bacteria.

According to the American Lyme Disease Foundation, "People exposed to the disease agent often have difficulty being diagnosed because of the non-specific nature of the symptoms. Most experience headaches, fever, chills, myalgia, and malaise that can be confused with other infectious and non-infectious diseases.

Rashes are rarely reported by people exposed to [anaplasmosis]."

Racicot said her husband's illness was not Lyme and therefore was missed by medical professionals looking specifically for it in blood tests.

"Flulike symptoms set in a few weeks after the bite followed by various odd medical problems, which culminated in a temporary loss of his eyesight for six weeks," she said. "Initially, we were told he probably had multiple sclerosis."

She said she and her husband had 30 doctor visits over eight months before a specialist identified the problem and prescribed strong doses of antibiotics and immune-building supplements.

"After months of doctors' visits, missed work and a lot of frustration, we found a specialist who was familiar with [anaplasmosis] because he had contracted Lyme himself," she said.

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