



Asian Longhorned Ticks: Where They Came From + How to Spot Them

by Jenny Menzel, H.C.

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Every spring heralds a new [tick season](#) here in the US, along with the need to prevent these pests from wreaking havoc on our health and the health of our pets, livestock, and wildlife. But with at least [80 different tick species in the country](#), knowing exactly which ones are dangerous and what to look out for can be daunting.

Added to the US tick species list in 2017 was the Asian longhorned tick, which was [first discovered stateside](#) on a

ABOUT THE AUTHOR



After graduating from medical school, Dr. Bill Rawls practiced conventional medicine for 15 years. However, when Lyme disease and fibromyalgia disrupted his career at age 45, he was forced into the world of herbal and alternative medicine. He has since restored his health—and has a passion to help others do the same. [Read his story »](#)



New Jersey sheep farm after making its way to America. Exploding in numbers due to its unique procreation abilities, a vital need for awareness was born, with its population swiftly expanding inland from the Eastern Seaboard.

So what do we know about these ticks? Can they contract and carry tick-borne infections like [Lyme disease](#), [babesia](#), or other [coinfections](#)? Or, do Asian longhorn ticks transmit diseases we've never been exposed to?

Research is ongoing, and experts don't have all the answers yet, but here is what we know so far about the new tick on the block — and what you need to know if you encounter them.

What are Asian Longhorned Ticks?

As you may have guessed by its name, the Asian longhorned tick (ALT), *Haemaphysalis longicornis*, comes from Asia — eastern nations, including China, Japan, Korean, and parts of Russia — eventually spreading to New Zealand, Australia, and the Pacific Islands around the early [1900s](#).

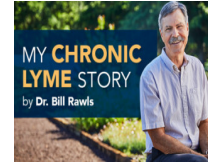
While experts can't say exactly how they got to New Jersey, **these tiny ticks likely hitched a ride on livestock shipped from overseas**. ALT have [reportedly](#) been intercepted on imported animals at several East Coast ports.

Where Have ALT Been Found?

As of September 2021, the [Centers for Disease Control and Prevention \(CDC\)](#) has reported ALT in 17 states:

- Arkansas
- Connecticut
- Delaware
- Georgia

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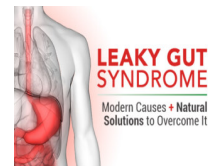


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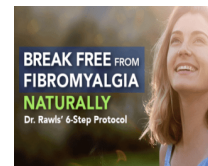
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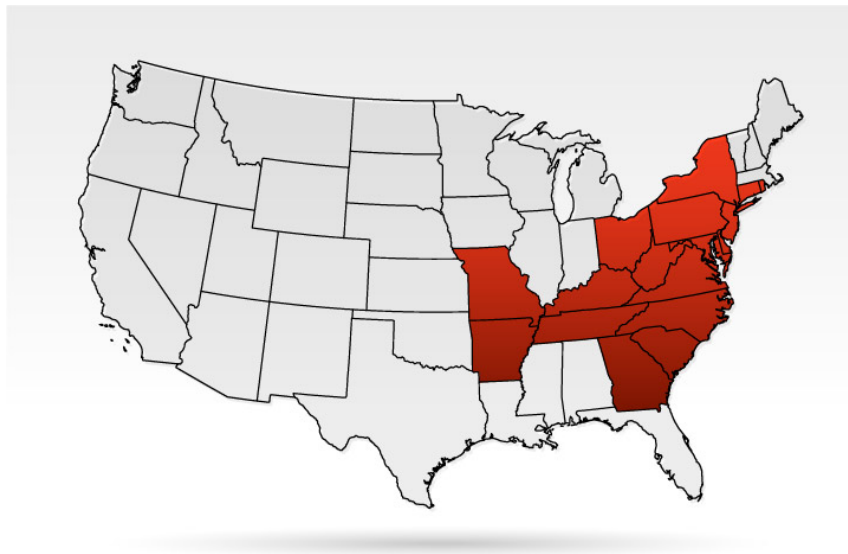
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Virginia and West Virginia lead the way for the [highest number of affected counties](#). ALT have mostly been found while feeding on livestock and in surrounding pastures when they're between hosts.

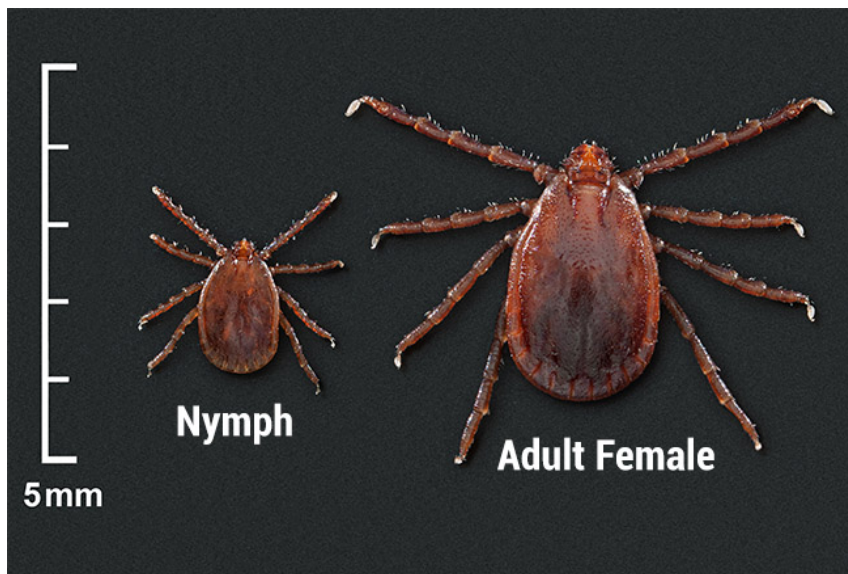
Fittingly, because **they prefer to feed on cattle and spend almost 90% of their lives in grassy pastures,**

they've picked up the nicknames "cattle tick" and "bush tick."

But they don't limit themselves to cows and farms. Foxes, white-tailed deer, coyotes, birds, sheep, chickens, pigs, dogs, cats, and even humans have been hosts to ALT; **they've even been found on well-manicured lawns.**

The ALT Lifecycle

While **their lifespan is generally a full year shorter than other three-host ixodid ticks** (hard ticks like the American dog tick and blacklegged deer tick) common to the US, the ALT is similar in that it needs three separate hosts throughout its four life stages: egg, larvae, nymph, and adult.



Stage I: Egg

The egg stage begins as soon as an adult female drops from her last host to lay eggs, usually in late summer, and ends a few weeks later when the eggs hatch into six-legged larvae.

Stage II: Larvae

Depending upon the temperatures and humidity after hatching, the larvae will crawl up nearby grass or shrubs

to await a suitable host that they'll feed on over the winter — most commonly a small rodent or rabbit.

Stage III: Nymph

After the larvae molt into nymphs the following spring, it ejects itself from its first host to climb nearby vegetation in search of its second host, where it will feed until adulthood in mid to late summer.

Stage IV: Adult

Once an adult, it quickly seeks its next feast with its largest host, usually cattle or something human-sized at this stage. After its final feeding, the adult drops off its last host to lay eggs over a 14- to 21-day period — and the cycle continues.

What Makes Them Unique?

Perhaps **the most interesting (and alarming) quality about this tick is how rapidly their population grows due to being parthenogenetic — able to reproduce asexually without the need for a male.** While some types of ALT can mate with males, the strain found in the US doesn't need their help to produce offspring.

Furthermore, **these female ticks can lay thousands of eggs at one time, all hatching into females that will lay thousands of their own eggs in the following season.** Their quick lifecycle makes it easy to see how difficult containing the spread of these ticks might be.

How to Spot an ALT

ALT are pretty unremarkable in terms of physical identification, which helps them easily blend in with the rest of the US tick population. However, there are a few subtle differences to notice.



Identifying Physical Features:

- Reddish-brown color
- Two horn-like spurs on the sides of their mouths
- Two slightly longer front legs

The Key Difference

Because these ticks look so similar to others, **the distinct characteristic of the ALT is the sheer number of ticks you'll find on one host, and thousands of ALT may assemble on a single animal.**

Another clue that it could be ALT is timing: August is the peak of reproduction, so you're likely to encounter ALT more around this time of year, although their population remains highly active into the fall.

What Diseases Do They Carry?

ALT are aggressive biters and have been shown to cause almost half a dozen diseases in Asia, Australia, and New Zealand that infect both humans and animals, with some diseases causing severe illness.

But in the US, there haven't been any reported cases of humans contracting tick-borne infections from ALT.

While it's still possible ALT in the US could carry pathogens that harm people, the types of infections and the frequency with which they transmit them are still being studied. Here's what we do know:

Severe Fever with Thrombocytopenia Syndrome

Also called Dabie bandavirus, **severe fever with thrombocytopenia syndrome (SFTS) is a life-threatening disease that has been reported in East Asia.** The average fatality rate is between 12% and 30%, according to the journal [Medicine](#), with [cytokine storms](#) (overactive immune response) being a chief cause of fatality.

And though no cases have been reported in the US, a similar bandavirus called **Heartland virus is spread by Lone Star ticks, which bears a close genetic relationship with SFTS**, raising concerns that ALT may be able to carry and spread Heartland in epidemic proportions. To date, no cases of Heartland virus have been found in the US ALT population, but one recent [study](#) found **ALT is capable of carrying and transmitting the virus to mice in a laboratory setting, warranting further research.**

Spotted Fevers

ALT can carry and transmit certain spotted fevers, however, it's unclear if they can be transmitted to humans. One [study](#) demonstrated that ALT could acquire *Rickettsia rickettsii*, also known as [Rocky Mountain spotted fever](#) (RMSF), by feeding on infected guinea pigs in a laboratory setting — and they could also infect other guinea pigs. However, **more research is needed to understand if or how ALT actually acquires RMSF from hosts that live in nature and what impact that may have on human health.**

Additionally, in Japan and South Korea, *Rickettsia japonica*, or [Japanese spotted fever](#), is a tick-borne disease that can be transmitted to humans from ALT, but again, no cases have been reported in the US.

Bovine Theileriosis

So far, **the only infection carried to the US is bovine theileriosis (*Theileriosis orientalis*)**. The good news: **This disease doesn't affect humans**, but it can cause severe blood loss and anemia in animals that have been infected. This malarial-like blood parasite **primarily infects cattle**, and diagnosing a herd can be difficult due to most presenting asymptotically.

What About Lyme Disease?

Although ALT larvae have shown the ability to contract the Lyme-causing bacteria [Borrelia burgdorferi](#) while feeding on infected mice, **the transmission process likely stops there**. [Research](#) indicates that **borrelia is lost during the molting phase from larvae to nymphs, so it's unlikely that ALT will significantly contribute to Lyme disease transmission**.

Are Humans at Risk?

We know ALT have a history of biting humans in other parts of the world, but it wasn't until 2018 that the first human bite occurred in the US, and it was [published](#) in the journal *Clinical Infectious Diseases*:

A 66-year-old man from Yonkers, New York, with no travel history beyond his own manicured lawn for 30 days prior, had removed a tick from his right leg. Presumed to be a deer tick by his physician, the patient was treated with a standard dose of 200 mg of doxycycline. Later that day, the patient turned the tick into the [Lyme Disease Diagnostic Center \(LDDC\)](#) for testing, where its identification as an ALT was confirmed. The patient

remained asymptomatic and never tested positive for Lyme disease or other tick-borne illnesses.



While humans are at risk of being bit by ALT, **most often, their host of choice is animals, especially cattle.** But research efforts are ongoing to find out which states and counties they reside in, other diseases they could carry, and whether they can transmit any of those diseases to humans.

Prevention and Protection

The CDC suggests ALT may not be as attracted to human skin compared to recognized native ticks (deer ticks, Lone Star ticks, American dog ticks, etc.). **However, you'll still want to protect yourself and your pets using the same [preventative strategies](#) against any tick species.**

You can [protect your animals](#) by following these guidelines from Cornell University's Department of Agriculture.

- **Avoid** pasture or lawn overgrowth
- **Prevent** wildlife from nearing your home or farm
- **Consider** the use of insecticides
- **Check** your animals for ticks regularly

- **Consult** your veterinarian to find which product is right for your animals.

You can protect yourself or your family by following the [CDC-recommended guidelines](#).

- **Keep a lookout** for tick-friendly habits, including tall grass, overgrown lawns, thick brush, and piles of leaves.
- **Use tick repellent** like DEET, picaridin, or oil of lemon eucalyptus (OLE).
- **Treat your clothes** and shoes with permethrin.
- **Take a shower** when you come in from outdoors.
- **Perform tick checks** on yourself and family members.
- **Remove ticks** promptly

What To Do if You Find Ticks

Finding a tick on you or your pet can be scary. If you encounter a tick bite, keep the following in mind:

1. **Remove the tick as quickly as possible** using clean, fine-tipped tweezers, ensuring that you pull up with steady, even pressure — never twisting or jerking to avoid leaving mouthparts in the skin.
2. **Clean the area with rubbing alcohol** or soap and water after removing it.
3. **Never crush a tick with your fingers**. Instead, put it in a Ziploc bag with a moist cotton ball or paper towel for further testing.
4. **Mail your tick into a reputable lab** like [Igenex](#) or [Tick Report](#) that can help you with specialized pathogenic testing. Some universities may have tick identification programs as well.
5. **Make an appointment to see your physician**, and take note of when the tick bite happened and where

on the body it took place.

If you find or remove a tick, you might not know what kind it is right off the bat. But **getting your tick tested is one of the best ways to gain peace of mind** and, if necessary, arm yourself with information to take to your [healthcare provider](#). Although there's still a lot to learn about ALT, you don't have to avoid [the great outdoors](#) altogether. Thankfully, you can take action steps toward keeping yourself, your family, and your animals as safe as possible.

Dr. Rawls is a physician who overcame Lyme disease through natural herbal therapy. You can learn more about Lyme disease in Dr. Rawls' new best selling book, [Unlocking Lyme](#).

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