

Preparing for Asian Longhorned Tick in Kentucky

By Anna Pasternak, Graduate Tick Researcher and
Jonathan L. Larson, Extension Entomologist

ENTFACT-518

Asian Longhorned Tick Fast Facts

- Asian longhorned tick (ALT) is an invasive species that is normally found in China, Japan, Korea, and other Asian nations. It was first confirmed in the United States in 2013 with further discoveries in 2017.
- The invasive form of this species reproduces through parthenogenesis, where the female can produce offspring on her own. This can result in thousands of ticks being found on animals.
- As of this writing, ALT has been found in 16 states, including Kentucky.
- There is ongoing research focused on the role of ALT as a vector of pathogens in the US. It is known that this pest can cause health issues related to blood loss in wildlife and domesticated animals. While this behavior has not been thoroughly documented in the U.S. it is observed in some expanded regions. Careful monitoring of farm animals and use of tick prevention methods is highly recommended.



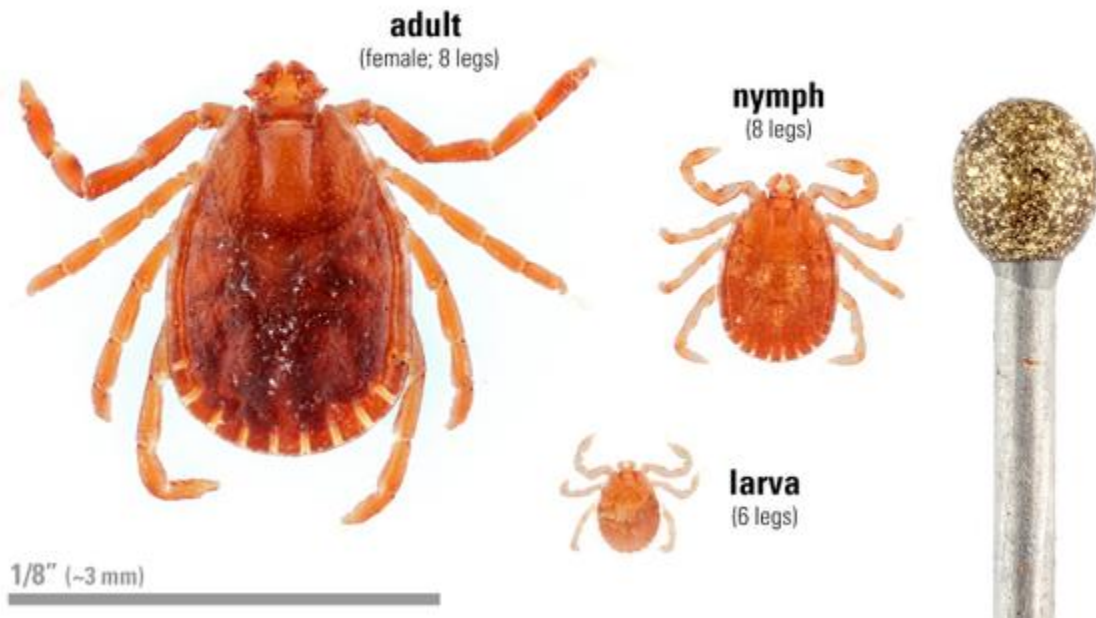
Asian longhorned tick (ALT) is an invasive species that is brown in color with little to no distinguishing markings. They are smaller than many of our native ticks. Photo by Centers for Disease Control.

Pest Background and Description

The Asian longhorned tick (ALT) is an invasive species that was first confirmed in the US in New Jersey in 2013 with subsequent confirmations in 2017. Since these initial finds, ALT has spread to multiple other states. It is native to East Asia, including the nations of China, Japan, and Korea.

ALT is a simple looking tick. They have a reddish-brown coloration throughout their life. Like native species, they progress from eggs to six-legged larva, to eight-legged

nymphs, then to reproductive adults. As adults, ALT is about .1 inch long (2.5 mm) and are smaller than many of our common North American tick species. As they feed, their bodies will swell to the proportions of a pea. Unlike the American dog tick or Lone star tick, the Asian longhorned tick has no distinct patterns or markings. So far, all documented adult Asian longhorned ticks caught in the United States have been female and therefore this species reproduces here through parthenogenesis, where an adult female can give birth to many clonal female daughters.



Asian longhorned tick go from egg to larva, to nymph, then to adult. They are reddish brown throughout their life and quite small (the gold object is the head of a pin). Photo by Matt Bertone, NC State Entomology.

Asian longhorned tick, like other problematic tick species, is a blood-feeding ectoparasite. They will await a host by questing on vegetation (such as long grass). When a potential host wanders by, the tick will climb onto the body and then search for a suitable feeding site. Following this, they

will insert their mouthparts into the host and begin to draw blood out. They will feed for multiple days until fully engorged.

So far in the US, ALT has been confirmed on numerous animal hosts including but not limited to, turkeys, squirrels, rabbits, raccoons, elk, deer, and bear. Domesticated animals such as cattle, sheep, and horses are

also under threat. There have been confirmed bites on humans, but the CDC indicates that there is less attraction to humans than to other animals.

This tick is a possible vector for the pathogens responsible for spotted fevers and for anaplasmosis. There are ongoing research projects in the US to find if ALT is going to be a competent vector for Rocky Mountain Spotted Fever and Lyme disease. While the most recent research has demonstrated that ALT is unlikely to be a vector for Lyme disease, this is an ongoing situation that requires continued evaluation. There has been a published report showing that a wild caught tick contained the pathogen, but no confirmed cases of the tick transferring the pathogen to a host have been recorded. As for Rocky Mountain Spotted Fever, one laboratory trial demonstrated that ALT could transmit the bacteria responsible, but thus far, no wild caught Asian longhorned ticks have contained the pathogen. Again, this situation will require careful monitoring in the future.

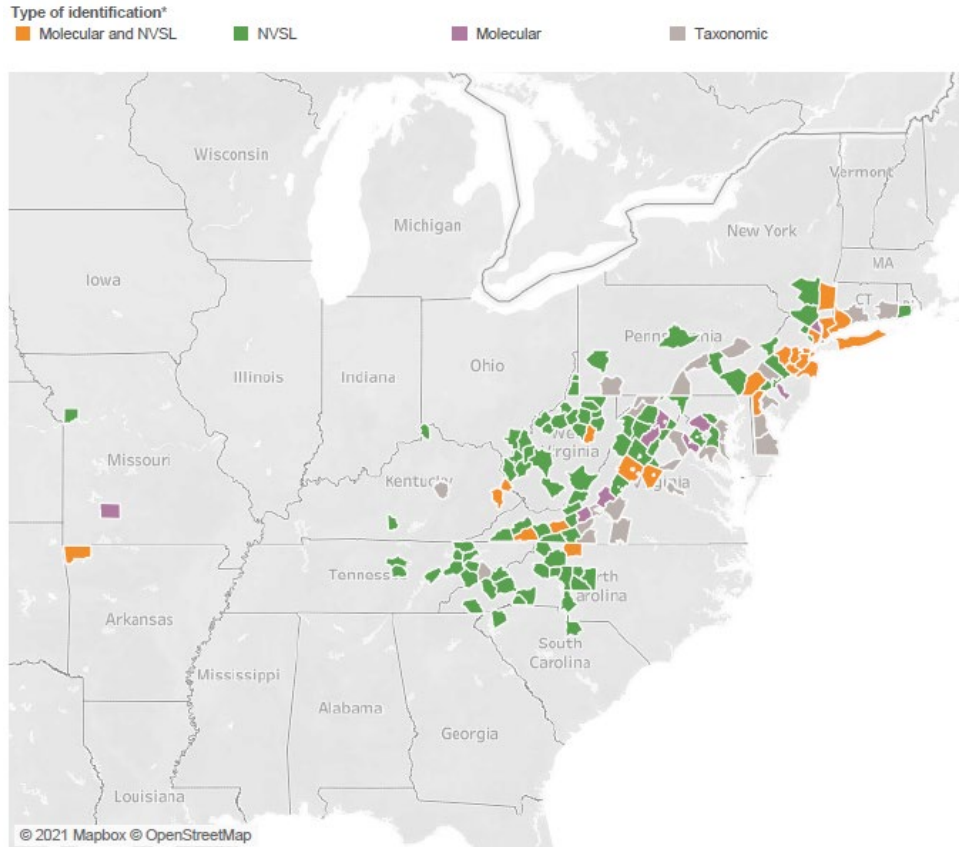
Theileria orientalis is a tick-borne disease that can cause anemia and death in cattle globally. Laboratory tests have confirmed ALT's ability to successfully vector the *T. orientalis* Ikeda strain in the United States after several ticks were collected from a herd of infected cattle in Albermarle County, Virginia. The Ikeda strain of this hemoparasite is more virulent than other

strains and causes severe infection in 1-6% of infected animals, resulting in an increased need for enhanced surveillance and control measures to control potential spread. Moderate to severe infections present symptoms including but not limited to weakness, pyrexia (fever), anemia, and increased heart and respiratory rates. Cattle industries and stockyards in states where ALT has been identified should be vigilant in practicing tick prevention strategies and periodically checking cattle for tick infestations.

Despite the lack of pathogen transfer, ALT does pose a threat to wild and domestic animals. As these ticks are capable of reproducing through parthenogenesis, an individual female tick is capable of yielding hundreds of more ticks that will feed on an animal. As these populations boom on a host, the animal can suffer from anemia and possibly, exsanguination (death due to blood loss). There have been recorded cases of cattle dying in North Carolina due to this, https://www.ncagr.gov/paffairs/release/2019/SateVeterinarianremindslivestockandpetowners_towatchoutforticks.htm.

What is the situation in the US right now?

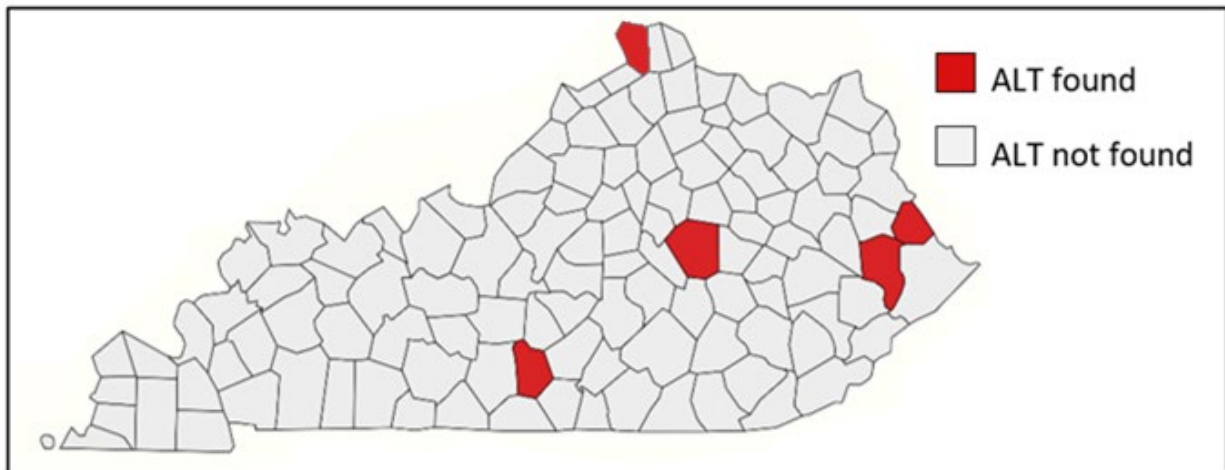
As of the writing of this fact sheet, there have been confirmed finds of ALT in: Arkansas, Connecticut, Delaware, Kentucky, Maryland, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, and West Virginia.



The known distribution of Asian longhorned tick in the US. This map is taken from the National *Haemaphysalis longicornis* (Asian longhorned tick) Situation Report as of August 2021.

In Kentucky specifically, ALT has been found in Boone, Floyd, Madison, Martin, and Metcalfe counties. Findings have occurred on different hosts: a black bear in Floyd

county, a human in Madison county, an elk in Martin county, and a cow in Boone and Metcalfe counties.

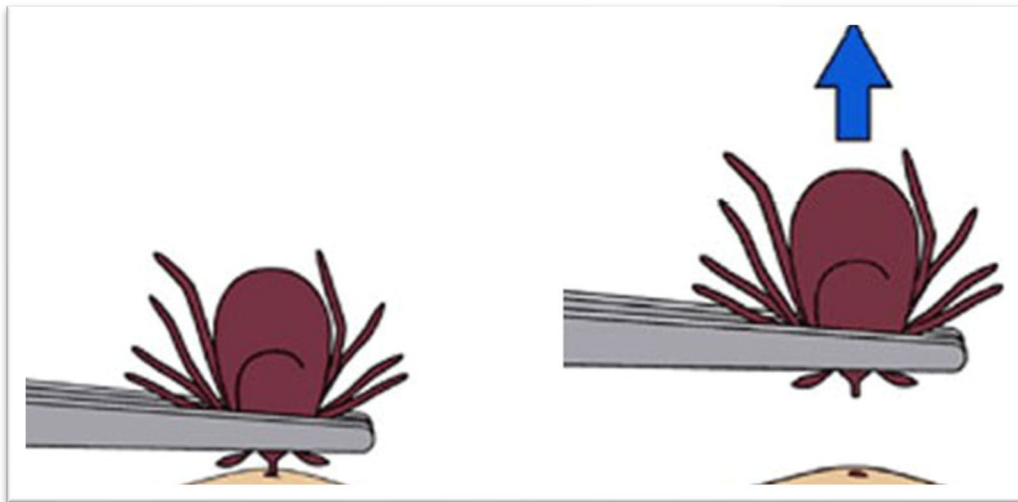


Tick Prevention and Management

As with all ticks, people can take precautionary steps to keep themselves safe from ALT bites. Using repellants for your skin (such as DEET or picaridin) can help, but treating your clothing with permethrin will provide the best protection. Permethrin is not to be used on the skin and should only be applied to clothing items. Performing routine tick checks after spending time in tick habitat will also hopefully intercept ticks before they bite.

If you find that a tick (of any species) has attached itself to you, there are steps you

should take to remove the tick. Avoid using methods such as fire, alcohol, essential oils, or other topical applications that will kill or agitate the tick while it is attached to you. If you use these, you might induce the tick to “vomit” into you, increasing the possibility of pathogens being transferred to you. Instead, find a pair of tweezers and grip the tick’s body as close to your skin as possible. Then, pull steadily out to remove the tick. Do not rip the tick out or twist and wiggle it out, doing this could cause pieces of the tick to break off inside of you.



As for animals, treating your pets with tick preventive medicine will keep them tick-free and help to prevent them from accidentally bringing the little bloodsuckers into your yard and house. Livestock should be inspected thoroughly at regular intervals to hopefully find ticks on animals before populations grow. When they are located on animals, removing them as you would on a human is the best course of action. Habitat management can help suppress tick populations as well. Be sure to cutdown on

long vegetation near pastures and barns and remove brush piles where possible. Keeping an approximately 9-foot wide, open perimeter near pastures can help minimize tick populations in high animal traffic areas. Perimeters can be treated with pyrethroid products (such as bifenthrin) though this should not be done to entire pastures. Products that can be wipe-on or spray repellents as well as shampoos, ear tags, pour on insecticides and dusts can help to repel some ticks for a short while. These

treatments may offer protection for four to eight hours and even if they are used, careful monitoring of the animals is still required.

Other Asian Longhorned Tick Resources:

- Tennessee Tick Project
<https://www.tnticks.org/asian-longhorned-tick-project>
- North Carolina State factsheet
<https://content.ces.ncsu.edu/asian-longhorned-tick>
- USDA Invasive Species Project
<https://www.invasivespeciesinfo.gov/terrestrial/invertebrates/asian-longhorned-tick>

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CAUTION! Pesticide recommendations in this publication are registered for use in Kentucky, USA ONLY! The use of some products may not be legal in your state or country. Please check with your local county agent or regulatory official before using any pesticide mentioned in this publication.

Of course, **ALWAYS READ AND FOLLOW LABEL DIRECTIONS FOR SAFE USE OF ANY PESTICIDE!**

Images: University of Kentucky Entomology unless otherwise cited