Asian Longhorned Tick in the Southeast

By: Nancy C. Hinkle, Ph.D., CAES Dept. of Entomology, and Michael J. Yabsley, Ph.D., College of Veterinary Medicine and Warnell School of Forestry and Natural Resources, Univ. of Georgia

Three individuals of Haemaphysalis longicornis collected from the United States. A partially fed female is on right and two unfed females are on the left.

Most of us think Georgia has enough ticks, with 22 species. But the Asian Longhorned Tick (ALT, Haemaphysalis longicornis) is lurking less than 100 miles away in both North Carolina and Tennessee, so Georgia probably should prepare for an addition to its tick fauna.

The ALT was first reported in continental North America in 2017 from a sheep in New Jersey, but archived specimens confirm its presence in West Virginia in 2010. It has since been reported in at least a dozen states along the eastern seaboard down to Arkansas, Tennessee, and North Carolina. Its mode of distribution is unknown, but this rapid spread bodes poorly for containment.

Originally from northeast Asia, this tick was introduced to Australia and New Zealand over 100 years ago, where it established and became a major problem on cattle and sheep. ALT presents a serious threat to livestock; in fact, in Australia it is known as "the cattle tick." But it appears this tick has not met a warm-blooded animal it doesn't like, having been found on over two dozen hosts (including birds, which has serious implications for movement). They readily feed on ruminants, horses, dogs, cats, humans, and several common wildlife species.

Why is this tick of particular concern?

Because ALT is not native to North America, there are no natural controls—no predators or parasites to suppress its numbers. Animals have not developed any natural resistance to it, so it is likely to thrive on both wildlife and livestock.

ALT is parthenogenetic, meaning females reproduce without mating, and males are superfluous. A single female introduced into an area can start a new population, with infestations readily spreading. Each female produces over 2,000 eggs, so populations can rapidly explode.

The main concerns regarding establishment of ALT are its potential role as a pathogen vector and its status as a livestock pest. In its native range it can transmit numerous zoonotic pathogens including bacterial (e.g., Ehrlichia, Anaplasma, Borrelia, Rickettia spp.) and viral (e.g., Powassan virus, severe fever with thrombocytopenia syndrome virus) pathogens. In addition, it can also transmit Babesia and Theileria spp. to livestock, and morbidity and mortality may be caused by very large tick burdens.

To date, in the US, no pathogens have been found in ALT tested; however, there have been two notable events involving ALT and cattle. In August 2017, seven cattle from Virginia with weakness and malaise died, and in September an additional cow presented with anemia and weakness. This cow was diagnosed with Theileria orientalis Ikeda strain, which had not previously been reported in the US and is transmitted by ALT in Asia and Australia (Oakes et al. 2019). Recently, a cow in North Carolina died due to anemia related to an infestation with thousands of ALT. Neither T. orientalis nor Anaplasma marginale was detected in this cow.

Ticks do not fall out of trees but stay within a few inches of the ground due to water-regulatory requirements. They will be on tips of grasses, reaching out with their hooked claws, latching onto your socks and then climbing up. Protection from ALT is the same as recommendations for other ticks. For humans, tuck pants into socks. Treat pants below knees with permethrin-containing products (like Permanone, Duranon, or Sawyer Insect Repellent). All pets should be on appropriate

tick preventatives. Another important tactic is conducting daily tick checks of yourself, your children, and your pets. Fortunately, ticks are slow in initiating feeding, so the general consensus for most pathogens is that if we remove ticks within 24 hours of attachment, risk of pathogen transmission is slight. Consult the on-line Georgia Pest Management Handbook and the Companion Animal Parasite Council (www.capcvet.org) for recommendations on tick control.

Researchers at the University of Georgia have been collaborating with state, federal, and academic partners to conduct surveillance for ALT in the eastern United States. UGA maintains a weekly-updated map, available at https://scwds.shinyapps.io/haemaphysalis/. North Georgia is a priority area for surveillance since ALT has been reported in North Carolina and Tennessee.

UGA is providing free tick identification. Along with submitted ticks, note (1) host species from which collected, (2) your contact information, and (3) GPS coordinates for host animal location (use cell phone compass app). Put ticks in a teaspoonful of ethanol in a small vial (something like a hotel shampoo bottle) or a sealed ziplock bag. Ticks from different animals should be put into separate containers. Box specimens to prevent crushing (do not mail in envelopes—tick fragments cannot be identified) and ship to:

Dr. M.J. Yabsley
589 DW Brooks Drive
Wildlife Health Building
College of Vet Med, Univ. of Georgia
Athens GA 30602

TICKS HAVE BEEN FOUND ON:

- Dog
- White-Tailed Deer
- Cattle
- Red Fox
- Human
- Virginia Opossum
- Cat
- Sheep
- Raccoon
- Horse
- Grey Fox
- Goat
- Striped Skunk
- Red-Tailed Hawk
- Groundhog
- Elk
- Eastern Cottontail
- Coyote
- Canada Goose

Reference: Oakes VJ, Yabsley MJ, Schwartz D, LeRoith T, Bissett C, Broaddus C, Schlater JL, Todd SM, Boes KM, Brookhart M, Lahmers KK. Theileria orientalis Ikeda Genotype in Cattle, Virginia, USA. Emerg Infect Dis. 2019 Sep; 25(9):1653-1659. https://wwwnc.cdc.gov/eid/article/25/9/19-0088_article