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Longhorned Tick

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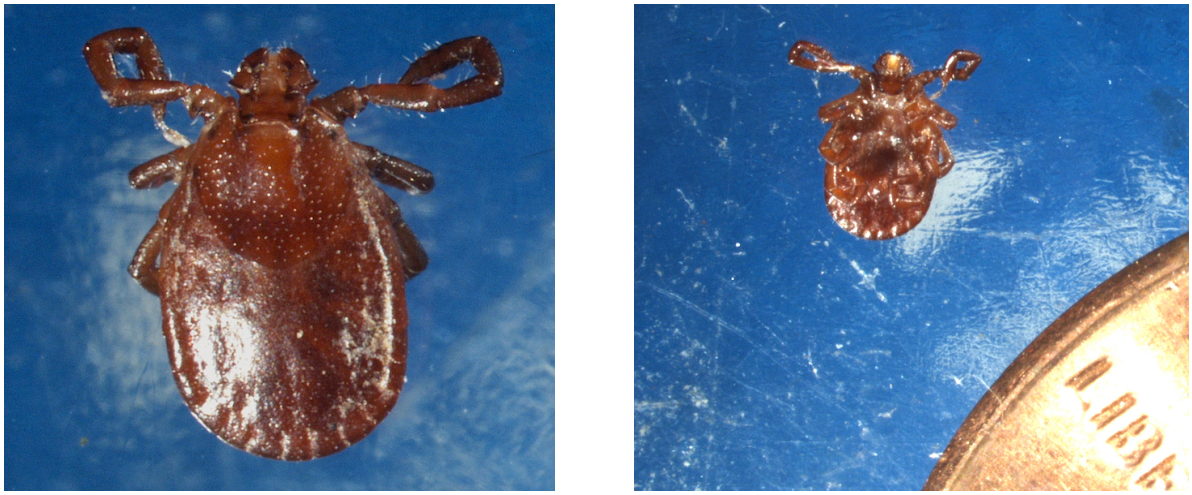
Description The longhorn tick, *Haemaphysalis longicornis* Neumann, is a species of hard tick in the family Ixodidae. They are small ticks, measuring about 3 – 4 millimeters in length as unfed adults. Adult and immature longhorned ticks are a nondescript reddish-brown color without any distinctive white markings. The mouth parts are both short and wide in contrast to the long, narrow mouthparts found on other common species of hard ticks in Virginia. Mouthparts on ticks submitted for identification may be missing as they frequently detach when the tick is removed forcibly.



Top (dorsal) view of an unfed *Haemaphysalis longicornis* nymph on left. Bottom (ventral) view of same specimen compared to penny on right. Both photos by E. Day, Virginia Tech.

Life Cycle Longhorn ticks primarily overwinter as unfed immature stages (larvae or nymphs). Larvae have six legs, are very small, and often overlooked. They climb up on vegetation and attach to a host, feed for several days, then drop off the host. They molt to the nymphal stage and then overwinter until the following spring. Nymphs have eight legs, measure about 2 mm long, and molt to the adult stage only after a successful blood meal. Adult longhorn ticks are smaller than other species found in the United States, approximately 4-10 mm in length

depending on if they have fed. Engorged adults are approximately the size of a pea. Adult females must feed before producing eggs and then they die. Longhorn ticks in the US are thought to be parthenogenic populations lacking males; the females do not need to mate in order to produce eggs. Asian populations of longhorn ticks have both males and females.

Immature hard ticks are typically found in the spring with adults appearing later in the summer, but in Australia both immature and adult longhorned ticks can be found at the same time. An infested sheep found in NJ in 2017 had multigenerational tick stages on it. Longhorn ticks are expected survive the winter climate in Virginia.

Habitat/Distribution The longhorn tick is native to China, Korea, and Japan, and is established in New Zealand and Australia. It has been intercepted previously at ports on animals entering the US; however, it was not known to be established in the United States until November 2017, when the tick was first found in Hunterdon Co., NJ. By June 2018, multiple populations of longhorn ticks have been found in NJ, VA, and WV. It is not known how these populations arrived in the US or how long they may have been here before their presence was detected. The geographical distribution among NJ, VA, and WV suggests that the tick may have been present in the US longer than initially thought and has had time to distribute its population.

Longhorn ticks, like other species of hard ticks, prefer areas with tall grass and a high humidity level at the soil surface. These sites include pastures, hay fields, and similar unmowed areas. Longhorn ticks appear to develop high densities within a given area, and infested animals may carry a high tick burden.

Host Range Longhorn ticks will likely have a larger impact on livestock and wildlife than on humans and pets. Longhorn ticks have been reported from cattle, horses, sheep, pigs, and chickens. They also feed on local wildlife, such as bear, deer, foxes, rabbits, rats, and birds. They will feed on cats, dogs, and humans as well.

Damage Infested animals may carry such a high tick burden that they lose weight and become anemic. Lowered milk production or reduced wool quality and quantity are concerns for dairy cattle and sheep, respectively.

Potential for Disease Transmission Although this tick has been associated with a number of animal and human diseases in Asia and Australia, it has not yet been implicated in disease transmission in the United States. This may change in the future with additional testing of tick populations.

Control The normal precautions against any species of hard ticks should be used where longhorned ticks are found. Any questions about unusual ticks on humans, livestock, or pets, including appropriate control measures, should be directed towards your local Cooperative Extension office. Consult a physician for any questions regarding possible tick-transmitted diseases or symptoms.

Tick Removal Ticks are best removed with tweezers or by wrapping the tick in tissue paper and gently pulling the tick back out with fingers. Do not twist or jerk; pull slowly to avoid leaving the mouthparts in the wound. Do not use nail polish, petroleum jelly, alcohol, or hot matches to remove the tick. Wash the wound with an antiseptic after the tick is removed. Kill the tick in rubbing alcohol and keep it in a small vial for a few months in case any disease symptoms develop and the tick needs to be identified.

How to avoid ticks: The following methods of prevention are recommended by the Virginia Department of Health.
☐ Avoid tick infested areas such as tall grass and dense vegetation.
☐ Walk in the center of trails and avoid brushing against weeds and tall grass.
☐ Keep grass and underbrush cut and thinned.
☐ Wear light colored clothing so ticks can be found easily.
☐ Tuck pant legs into socks so ticks stay on the outside of pants.
☐ Conduct tick checks on children and pets every 4 hours.
☐ Keep pets outside from April to September to help keep ticks out of the house.
☐ Apply repellents containing active ingredients such as DEET, Picaridin, oil of lemon eucalyptus, Bio-UD, or IR3535 to exposed skin.
☐ Ask your veterinarian to recommend tick controls for your pets.
☐ Treat your lawn with an approved pesticide for tick control.
☐ Treat clothes with permethrin (be sure to follow all label precautions).

Interesting Facts The rabbit tick, *Haemaphysalis leporispalustris* Packard, is a related species widely distributed across the US. It rarely feeds on humans but can cause anemia and death in wild rabbits and hares.

References

Fonseca, D.M., Egizi, A., and J. Occi. Global Health: the tick that binds us all: Review of the biology and ecology of *Haemaphysalis longicornis* Neumann, 1901. Center for Vector Biology, Rutgers, the State University of New Jersey. https://fonseca-lab.com/research/global-health-the-tick-that-binds-us-all/ Retrieved 29 May 2018.