tick is known to carry the agent for HGA in other states.

SYMPTOMS:

The symptoms for both HME and HGA can include fever, headache, muscle pain, vomiting and general discomfort. Illness can be severe.

Male and female lone star tick
Photo: Matt Pound, USDA Agricultural Research Service, Bugwood.org

STARI

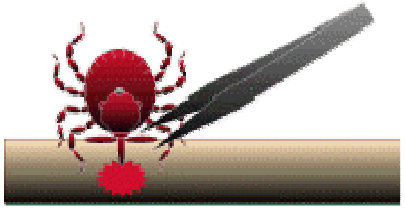
Southern tick-associated rash illness (STARI) causes a rash similar to the one described for Lyme disease. Unlike Lyme disease, this illness is associated with bites from the lone star tick. The rash, which usually appears within 7 days of the tick bite, may be accompanied by fatigue, fever, headache, muscle and joint pains.

Other Tick-Borne Diseases

Ticks can transmit other diseases such as tularemia (rabbit fever) and babesiosis. Neither of these is common in NC. Tularemia is a bacterial disease that has a sudden onset of fever and chills. Babesiosis is caused by a parasite that infects red blood cells and causes fever, hills, muscle aches and jaundice.

TICK REMOVAL

If bitten, prompt removal of the tick may help prevent disease transmission. Use fine-tipped tweezers to grasp the tick firmly as close to the skin as possible. With a steady motion, pull the tick's body away from your skin slowly. DO NOT TWIST and avoid crushing the tick's body if possible. Wash the affected area with soap and water. Do not be alarmed if the tick mouthparts remain in your skin. Once the mouthparts are removed from the rest of the tick, it can no longer transmit any disease bacteria. Do not use pertroleum jelly, a hot match, nail polish or kerosene to remove a tick.



Using tweezers or fingers covered with a tissue, pull the tick straight out. DO NOT TWIST.

FOR MORE INFORMATION:

Contact:
Chatham County Public Health Department
919-542-8208
www.chathamnc.org/environmentalhealth

Or visit the
Centers for Disease Control and Prevention at
www.cdc.gov/ticks

Tick-Borne Diseases In North Carolina

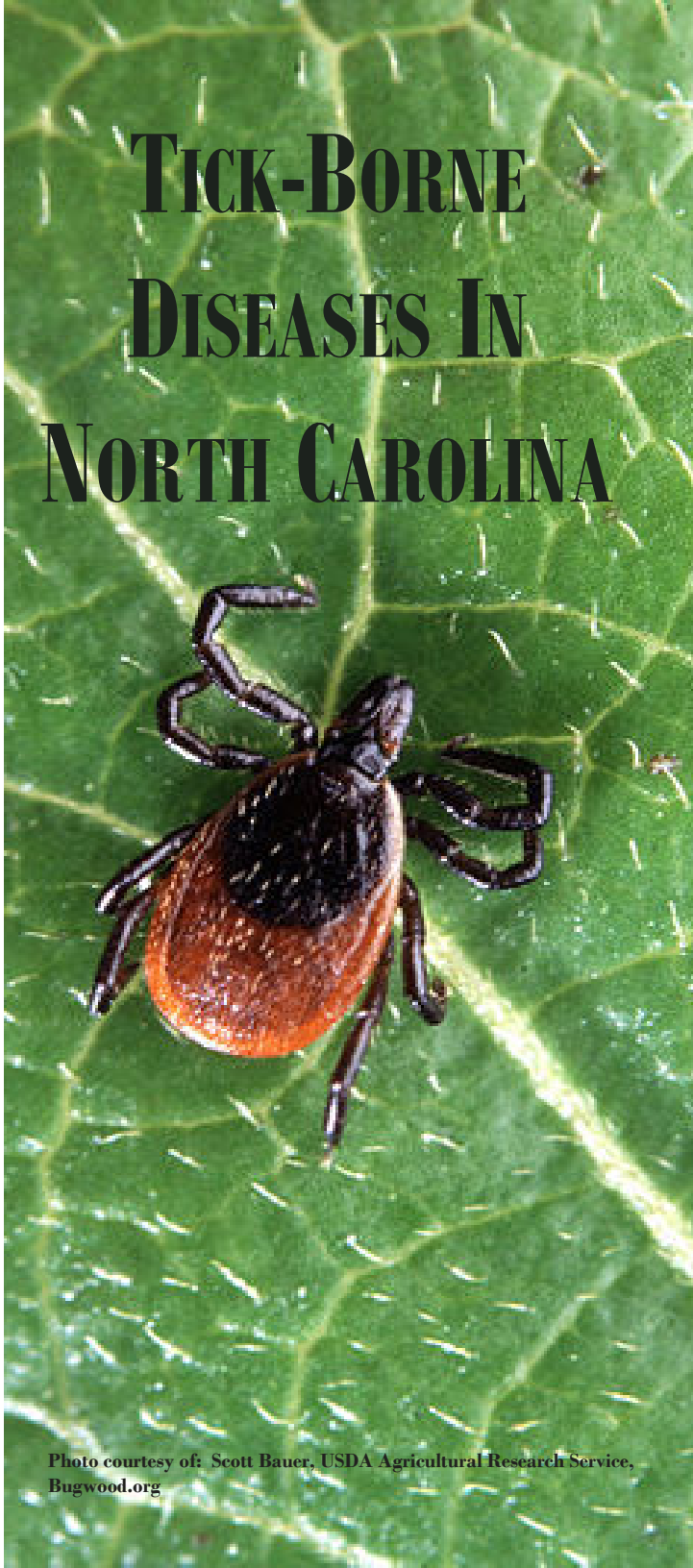


Photo courtesy of: Scott Bauer, USDA Agricultural Research Service, Bugwood.org

Tick Facts

Ticks are not insects but are arthropods more closely related to mites, spiders and scorpions. They are blood-feeding parasites and are commonly found throughout North Carolina. Ticks are usually found in natural areas that have grasses, shrubs or leaf litter; a description that fits most of our beautiful state. The first step in protecting yourself from tick-borne disease is being aware of the species found in the state and the diseases they may carry.

There are about 80 species of ticks in the United States (approximately 865 species worldwide). Only a few are of public health or veterinary importance.

Engorged deer tick attached to the back of a toddler's head. Adult thumb shown for scale. Photo: Jeremy Kemp

Although ticks are most commonly encountered during the warm summertime months, ticks can become active on warm days during the fall and winter. Ticks are equally at home in urban and rural environments. If you share your home with pets, they could accidentally bring a hitchhiking tick indoors when you don't expect it. Be aware of ticks at all times and in all environments, and check yourself and your children for that 'uninvited' guest!

If bitten by a tick, it may be helpful to save the specimen for later identification. Save the tick by placing it in a sealable plastic bag in your freezer, making a note of the date you removed the tick.

Tick-borne illness can be treated with appropriate antibiotics and it is important to consult with your doctor if you become ill after being bitten

Tick-borne Diseases in NC

Rocky Mountain Spotted Fever

Rocky Mountain spotted fever (RMSF) is the most commonly reported tick-borne disease in NC. It is caused by an infection with a bacterium The disease is characterized by a sudden onset of symptoms and can be fatal if not treated.

THE TICK:

The American dog tick is the species known to carry RMSF. This tick needs to feed on a host/ person for only about four hours to transmit the bacteria.

Female American dog tick
Photo: Gary Alpert, Harvard University, Bugwood.org

SYMPTOMS:

Symptoms of RMSF usually begin 2-14 days after the tick-bite and may include fever, deep muscle pain, severe headache, chills and upset stomach or vomiting.

Lyme Disease

Lyme disease is the leading arthropod-associated disease in the United States. It is caused by an infection with a spiral-shaped bacterium. The disease can have long-term effects if it is not treated promptly.

THE TICK

The black-legged tick is the carrier of Lyme disease. This tick gets its name from its dark or chocolate-brown legs. The young tick (nymph) is active during late spring and early summer . It normally feeds on small and medium-sized animals but can feed on people as well. Because of it's small size, the nymph can go undetected if you are not vigilant.

Adults of this species are most active during the fall and early spring, but can be out on warm days in the winter months. They prefer to feed on deer but will also bite people.

Transmission usually does not occur until the tick has been attached and feeding for at least 36 hours. Prompt removal of a tick can reduce the chance of infection.

Life stages of the black-legged tick shown with the head of a pin.
Photo: Jim Occi, BugPics, Bugwood.org

SYMPTOMS

Between three to several weeks after being bitten by an infected tick, the first sign of infection may be a circular or oval rash, called erythema migrans (EM) at the site of the bite. The EM can often be mistaken for a localized inflammation caused by a reaction to a tick bite. The EM rash usually does not itch or hurt so it may go unnoticed. Lyme disease may also cause headache, fever, muscle and joint aches and fatigue. If left untreated, the disease may affect the joints, nervous system or heart several weeks to months after the tick bite. In a small percentage of infected people, late onset symptoms may occur months to years later and cause long-term nervous system problems or arthritis.

Ehrlichiosis and Anaplasmosis

Several diseases can be caused by bacteria in the genera *Ehrlichia* and *Anaplasma*. Several cases of human monocytic ehrlichiosis (HME) and human granulocytic anaplasmosis (HGA) are diagnosed in North Carolina each year.

THE TICK:

The lone star tick is becoming very common and its range appears to be expanding across North Carolina. This tick is very aggressive and is known to transmit HME in other states. The black-legged