



Common Ticks of Virginia

Eric R. Day, Department of Entomology, Virginia Tech



From left to right: **American dog tick** (Gary Albert), **Lone Star tick** (Eric Day), and **Deer tick** (Scott Bauer)

Distribution and Hosts: The four most common ticks in Virginia that are encountered by humans are the lone star tick, the American dog tick, the brown tick, and the deer tick. The lone star tick is found predominately east of the Blue Ridge Mountains. The American dog tick is found predominately west of the Blue Ridge Mountains. The brown dog tick can be found throughout Virginia but tends to be uncommon. The deer tick is uncommon also and is found primarily in the northern and eastern sections of Virginia. Recently the deer tick has spread into many suburban areas of Virginia.

Description of Disease: The brown dog tick is not known to carry any disease in Virginia. Both the lone star tick and the American dog tick are potential carriers of Rocky Mountain Spotted Fever (RMSF). The deer tick is a potential vector of Lyme disease and has been implicated in the transmission of ehrlichiosis. In any case of suspected tick transmitted disease, consult with a physician.

Rocky Mountain Spotted Fever: A tick needs to be attached for four to six hours in order to transmit RMSF to its human host. The first symptoms noticed are usually severe headache, chills, fever, muscle aches, nausea, vomiting, and other flu-like symptoms. These first symptoms usually start 2 to 12 days after the tick bite. By the third day after the bite, a red rash develops on the wrists and ankles, in most cases, and often spreads to the entire hand or foot. A blood test is needed to confirm the disease, and early use of antibiotics has a very high rate of cure.

Lyme Disease: Lyme disease, *Borrelia burgdorferi*, initially develops as an oblong rash, usually 2 or more inches in size, with a clear center that develops at the site of the tick bite, although only 70% of people develop this symptom. The tick needs to be attached for 36 hours to transmit the disease. At a later time people usually develop flu-like symptoms such as nausea, headache, fever, and general stiffness of the neck joints. Chronic symptoms of a small percentage of untreated people include arthritis and nervous

system complications.

Identification: All ticks have eight legs in the adult stage, but have six legs as newly hatched larvae. Small ticks of all species are called seed ticks, a common name that does not refer to one particular species.

The American dog tick, *Dermacentor variabilis*, is about 5 mm long with short stout mouthparts. It is dark brown with light wavy lines or reticulations on its back.

The lone star tick, *Amblyomma americanum*, is about 5 mm in length or less with long mouthparts. It is light reddish-brown with a central white spot on the back of most of the adults.

The brown dog tick, *Rhipicephalus sanguineus*, is about 5 mm long with short stout mouthparts. It is distinguished from the American dog tick by its dark reddish-brown color and lack of any white markings.

The deer tick, *Ixodes scapularis*, is a small tick about 2-3 mm in length with long mouthparts. It is off-white or reddish when fed and has black legs. The deer tick until recently was known as *Ixodes dammini*.

Life History: Ticks pass through three feeding stages: the larva, nymph, and adult. Typically, each stage feeds on a different host. Hosts include a variety of animals (i.e., mice, rabbits, deer), and each stage of the tick has a different host depending on the life stage. Humans are accidental hosts that are not part of the tick's natural life cycle. After feeding on a host, a tick becomes engorged with blood and drops from the host. Once in a protected place, immature ticks molt to the next stage, and adult females produce eggs after their final blood meal.

Control: 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

Use tick repellents that contain at least 30% DEET

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)

Ticks are best removed with tweezers or by wrapping the tick in tissue paper and pulling out with fingers. Do not twist or jerk, and 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.

Remarks: Ticks cannot fly or jump.

References

Anonymous, 1993, *Preventing Tick Borne Diseases in Virginia*, Virginia Department of Health, Office of Epidemiology, Richmond, Virginia

Pratt, H. D. 1961. *Ticks: Pictorial Key to Some Common Species*. United States Department of Health, Education and Welfare, Centers for Disease Control, Atlanta, Georgia.

Sonenshine, D. E., 1979. *Ticks of Virginia. The Insects of Virginia: No. 13*. Virginia Polytechnic Institute and State University, College of Agriculture and Life Sciences.