

The Blacklegged Tick or "Deer" Tick, *Ixodes scapularis*

Blacklegged tick is the correct common name for the tick popularly known as the "deer" tick (the terms are not used together, it is not called the blacklegged deer tick). *Ixodes* (pronounced x-zod-ease) *scapularis* transmits the causal agents of three diseases; Lyme disease, human babesiosis, and human granulocytic anaplasmosis (HGA). The northern range of the tick includes southern portions of Canada and coastal Maine through the mid-Atlantic states into Maryland, Delaware and northern parts of Virginia and in several north central states, particularly Wisconsin and Minnesota, extending down through Illinois and into Indiana.

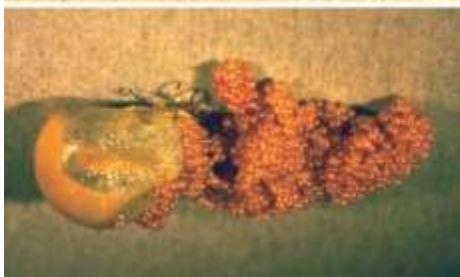
Unfed female *I. scapularis* have a reddish body and a dark brown dorsal scutum (plate) located behind the mouthparts. Length of the female tick from the tip of the palpi to the end of the body is about 3 to 3.7 mm (about 1/10 of an inch). Male *I. scapularis* are smaller (2 – 2.7 mm) than the female and are completely dark brown. Nymphs are 1.3 to 1.7 mm in length, while larvae are only 0.7 to 0.8 mm.



Above: left to right: larva, nymph, male and female *I. scapularis*.

Below top: unfed and engorged female.

Below bottom: female with egg mass.



Blacklegged ticks feed on a wide variety of mammals and birds, requiring 3-7 days to ingest the blood, depending on the stage of the tick. Larvae and nymphs of *I. scapularis* typically become infected with *B. burgdorferi* when they feed on a reservoir competent host. The white-footed mouse is the principal reservoir (source of infection) for *B. burgdorferi*, the protozoan agent of human babesiosis, *Babesia microti*, and can serve as a reservoir for the agent of human granulocytic ehrlichiosis. Birds are also a major host for immature *I. scapularis* and have been implicated in the long-distance dispersal of ticks and *B. burgdorferi*. White-tailed deer, *Odocoileus virginianus* (Zimmerman), are the principal host for the adult stage of the tick, which feeds on a variety of medium- to large-sized mammalian hosts. An engorged female tick may typically lay around 2,000-3,000 eggs.

The Lyme disease spirochete in northern states is maintained, in part, by the two-year life cycle of the tick. Eggs are laid by the female in May. Larvae hatch from those eggs in mid- to late July with August being the peak month for larval tick activity. After feeding, the larvae drop from the host and molt to nymphs, which will appear the following year in late spring. May, June and July are peak months for nymphal tick activity in the northeast. Therefore, the nymphs precede larvae seasonally and can infect a new generation of animal hosts. Larvae active later in the summer then become infected when feeding on reservoir host animals. The nymphal ticks will molt to adults after feeding and appear in the fall of the same year. Adult *I. scapularis* do not hibernate and may be active on warm winter days and the following spring. Adults of *I. scapularis* are more heavily infected with *B. burgdorferi* than the nymphs because the tick has had two opportunities to become infected, once as a larva and once as a nymph.

Two-year Life Cycle for *Ixodes scapularis*

