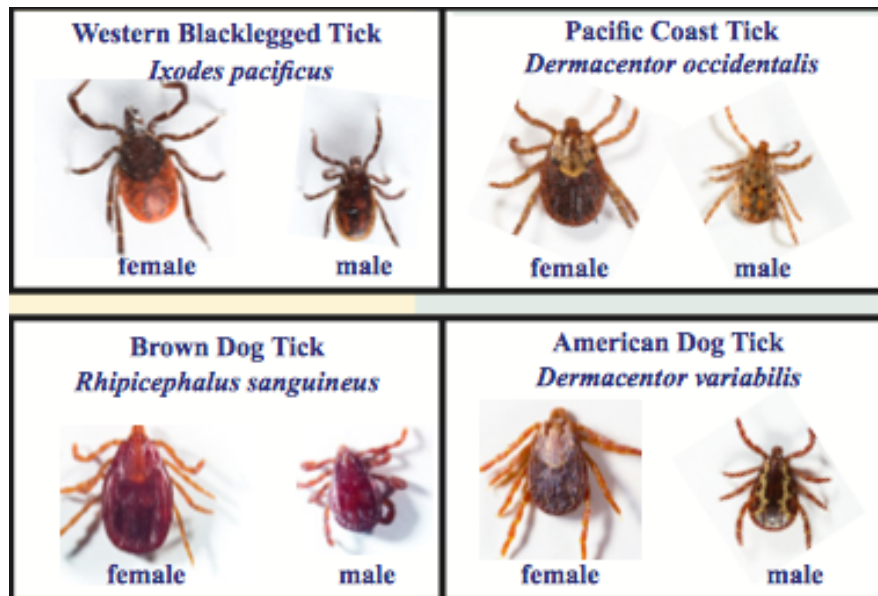
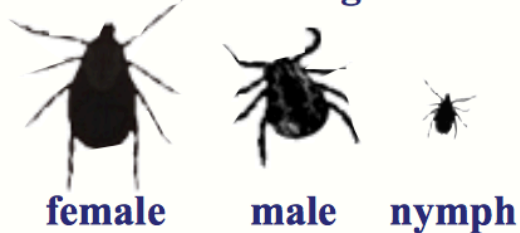


Ticks in California



Actual size

Pacific Coast, Brown Dog, and American Dog Ticks



Western Blacklegged Tick



Tick-borne pathogens

1. Lyme Disease (*Borrelia burgdorferi*)
 - Carried by Western Blacklegged Tick (*Ixodes pacificus*)
 - 1-2% adults, 2-15% nymphs infected
2. Anaplasmosis
 - Carried by Western Blacklegged Tick (*Ixodes pacificus*)
3. Spotted Fever
 - Carried by Brown Dog Tick (*Rhipicephalus sanguineus*) and American Dog Tick (*Dermacentor variabilis*)
4. Tularemia
 - Carried by American Dog Tick (*Dermacentor variabilis*)

Life Stages of Ticks

Full life stage will take 3 years to complete and will undergo at least two blood meals from vertebrate hosts.

1. Egg
2. Larvae: peak season in fall
 - Found mostly on birds, small mammals, lizards
3. Nymph: peak season spring & early summer
 - Found mostly on birds, small mammals, lizards
4. Adult
 - Found mostly on humans, dogs, deer

Types of habitats for ticks

Ticks can be encountered by people in their yard, on their pets, or throughout nature trails.

1. Nymphs: dense woodlands, forest harboring oak, leaf litter
 - Questing nymphs sit on top of litter or branches up to 4 feet
2. Adults: low lying vegetation in grassland, woodland grass, brush, along margins of trails

How to prevent tick bites

Tick bites can be increasingly preventable with the amount of precaution an individual takes.

1. Dress appropriately
 - Full-length pants, long sleeved shirt, tuck pant legs into socks, prevent ticks crawling into clothes
2. Acaricides or repellents
 - Commercially available acaricides or repellents can be sprayed on skin or clothing
 - Permethrin is highly toxic to ticks at very low dosages
 - Other products containing 20-30% DEET as active ingredient are effective against wide range of ticks and insects
3. Tick checks
 - Frequently inspect clothing or exposed skin to detect and remove ticks while outdoors
 - Ticks often attach to scalp, behind ear, arm or leg
 - Place clothes worn outdoors to one hour dryer cycle at high heat to kill ticks that crawled into them
4. Reduce tick abundance
 - Good land scape management
 - Clear leaf litter or woodchip barriers

Tick removal

1. Remove tick immediately once found (do NOT squish tick)
 - a. Grasp tick as close to skin with a pair of sanitized tweezers
 - Use protected fingers if tweezers are unavailable
 - b. Slowly and steadily pull tick straight out, and remove mouthparts that break off
 - c. Clean wound with soap and water
 - d. Apply mild antiseptic
 - Rubbing alcohol or povidone-iodine

Who to contact

1. Physician
2. Specialist at governmental agencies
 - California Department of Public Health
 - Local city health department
3. Local mosquito and vector control districts or universities may assist with tick identification

Signs and symptoms

1. 60-80% patients show reddish rash known as “erythema migrans” within 3-32 days after bite of infectious tick
2. Fatigue, headaches, fever, chills and dlulike symptoms during initial stage of illness
3. Without treatment, other signs or symptoms may occur days to months later
 - Skin rashes, musculoskeletal system (migratory pain in joints, tendons, muscles or bones), neurologic system (sever headache, facial palsy, memory loss), enlarged lymph nodes
 - Very rare: inflammation of heart, eyes, liver damage

Lyme Disease in pets

1. Dogs, cats, horses, livestock may become infected but only dogs show clinical signs
2. Signs or symptoms may be
 - a. Arthritis, lameness, lethargy, loss of appetite, enlarged lymph nodes

Sources and additional information

1. www.cdph.ca.gov
2. <https://www.cdc.gov/ticks/diseases/>
3. http://www.tickencounter.org/faq/seasonal_information