

Hard Ticks found in Arizona

Brown Dog Tick (*Rhipicephalus sanguineus*)

DISTRIBUTION: Throughout Arizona – most common tick encountered

IDENTIFICATION: Red-brown color and elongated body. Prefer to feed on dogs, but occasionally feed on rodents, rabbits, cattle and humans. Often encountered in warm climates in cracks of houses, garages and dog runs; frequently found crawling up walls and on ceilings. Without a host, can live 3-5 months between stages and adults can live up to 200 days without a meal.

ASSOCIATED DISEASES: Rocky Mountain spotted fever, canine ehrlichiosis and canine babesia (NE USA), tick paralysis (more rarely)



Brown Dog Tick Nymph (K. Stafford, Connecticut Agriculture Exp. St.)

Rocky Mountain Wood Tick (*Dermacentor andersoni*)

DISTRIBUTION: Rocky Mountain States; only found in brushy areas in the very northern part of Arizona.

IDENTIFICATION: Brown tick with silver-gray ornamentation on its back. Nymphs can feed on cats and rabbits, however adult forms feed on larger mammals like dogs, horses, deer, cattle, and sheep. Often encountered in grassy meadows and along trails.

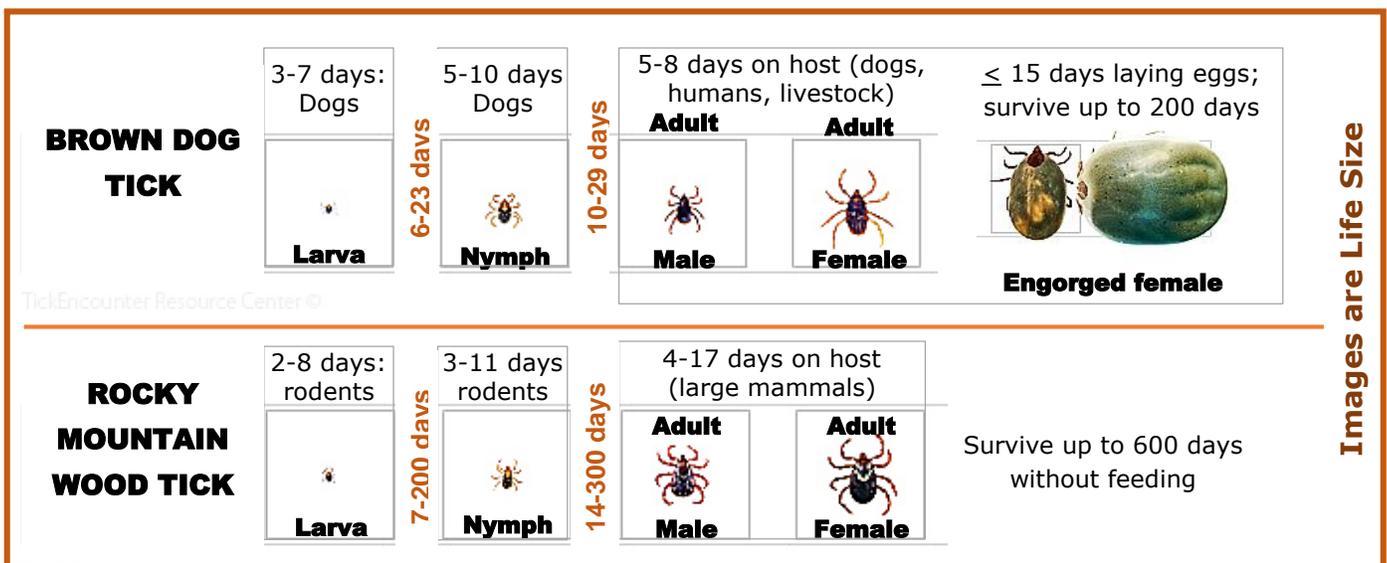
ASSOCIATED DISEASES: Rocky Mountain spotted fever, tick paralysis and tularaemia



Figure 1 Rocky Mountain wood tick – adult female. www.tickencounter.org

Tick Life Cycle

Ticks have 4 life stages (egg, larva, nymph, and adult). After feeding for 3 to 10 days on a host, it will fall off and molt into its next life stage. See the table below for number of days for each life stage. NB: Brown dog ticks are the only tick that can complete its life cycle indoors and are happy to complete its life cycle on dogs.



Management

Prevention: Best method of controlling ticks is to keep them from becoming established.

- Keep a tick free environment – mow the lawn regularly, remove leaf litter, keep bushes trimmed. Monitor indoors for ticks (and other pests) along baseboards, on walls, false ceilings, in kennels, curtains, and garages.
- Groom and monitor your dog regularly, particularly if returning from areas known to have ticks (herding, kennels, hiking in the high country)
- Create barriers to keep ticks from entering recreation/living areas
 - Keep a 3' area free of brush surrounding area. You can also use essential oils, or diatomaceous earth.
- Regularly treat* your dog for ticks if they will be exposed to areas known to have ticks (see chemical or non-chemical alternatives). Once an infestation starts, thorough and repeated treatments will be needed.

Acaricides*: Known treatments include products that include fipronil, pyrethroids, and amitraz. These drugs are specific and are designed to kill and repel parasites. The most commonly used is Frontline, which will kill adult ticks, larvae and stop the life cycle from continuing. Please contact your veterinarian for further information and discuss options, especially if you have a small dog or cat.

Non-Chemical Alternatives*: Using treatments that are based from essential oils have been proven effective, however treatments must be done more frequently (daily or weekly) and do not kill parasites if they feed on your pet.

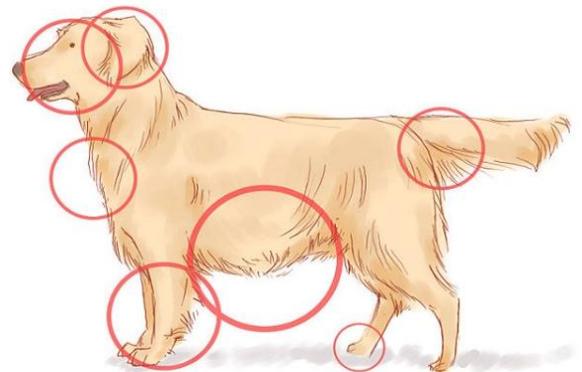
- **Rose Geranium or Pennyroyal** (Tickweed) – mix (20 drops) with oil and place a few drops on dog's collar or on dog.
- **Lemon or Purification** (Young Living) – place a drop directly on bite site to help neutralize toxin & help healing.
- **Lemongrass** (oil or plants) – useful as repellants. A few drops of the oil mixed in a laundry load can help repel ticks and fleas from dog blankets and beds.
- **Diatomaceous earth** can be used to create physical barriers along the ground. This powder will dry out the cuticle of the tick and other insects (crawling insects except scorpions), keeping them from entering an area. DE can be applied to the ground, around baseboards and in carpets, use a vacuum regularly to pick up affected ticks. If inhaled, DE can irritate nasal passages, and can irritate the eyes and contacted skin.
- **Formulated treatments** – Cedarcide Products (Cedar Oil), Bite Blocker (Geranium oil), Natural Chemistry (Cinnamon Oil, Cedarwood)

*MANY TREATMENTS AND REMEDIES ARE **TOXIC** FOR CATS OR PREGNANT ANIMALS

Tick Removal

In general (but not always), a tick needs to feed for several hours in order to be able to transmit disease to its host, so immediate removal can limit exposure. Ticks must be removed in one piece to avoid possible secondary infection

Removing a tick: Grasp tick at its head (where mouthparts meet the skin) with tweezers and pull straight out with firm pressure. With a little patience, the tick will let go. Be careful not to squeeze the body, which may release fluids (toxic saliva and possible infectious disease) into the wound. Wash



Most likely locations to find ticks on a dog. WIKIHOW.COM

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tweezers, hands and bite area with soap and water. “Smothering” or using a hot match are ineffective methods and can result in more toxins being injected into the bite site or the tick may die while its mouthparts still inserted in the skin, causing secondary infections. Removed ticks should be killed by placing in a small jar of alcohol for 2-24 hours prior to disposal, it takes a long time for a tick to drown in water.



Proper location to grasp a tick to be removed from its host. Healthwise, Inc.

Diseases Reference

Canine babesia – Infection of the blood cells and spread by ticks. Mainly in NE and Midwest USA. Symptoms include fever, anorexia, and anemia in dogs.

Canine ehrlichiosis – Bacterial disease spread by ticks. Less severe than RMSF, but has similar clinical presentation including fever and lameness in dogs. Not documented in Arizona, but known in California and Eastern USA.

Colorado Tick Fever – Occurs in SW USA in elevations exceeding 4000 feet. This disease is rare and known primarily from Colorado, Utah, Montana and Wyoming.

Lyme disease – As of 2007, no one has contracted Lyme disease as a result of tick bite in Arizona. Transmitted by Western black-legged tick; requires high humidity to survive and can only be found in Arizona in Hualapai Mountains in late winter/early spring. Typical symptoms of lyme disease in dogs: recurrent lameness/arthritis, loss of appetite and depression, reluctance to move or painful gait, swollen joints that are warm to touch, pain in legs or body, fever, fatigue, swollen lymph nodes.

Rocky Mountain spotted fever (RMSF) – Transmitted by Brown dog tick, Rocky Mountain Wood Tick, American Dog Tick. Symptoms in humans include fever, fatigue, spots on lips/nose, red eyes, swollen extremities, chills, muscle ache, headache. A spotted rash can develop 2-5 days later. Symptoms in dogs include fever, lethargy, retinal hemorrhages, edema of extremities. Clinical findings in dogs are likely to be hypoalbuminemia, moderate leukocytosis, thrombocytopenia. Early treatment is effective in humans and dogs; doxycycline is the most common antibiotic used to treat this disease. Arizona had 45 cases in 2013 spread relatively evenly across all 12 months of the year. RMSF has been diagnosed in Pima county (6), Pinal county (1) and Gila county (2) in 2014.

Tick borne relapsing fever – Transmitted by a soft tick *Ornithodoros spp.*. These ticks feed 15-30 minutes and are painless so often go unnoticed. These ticks live up to 10 years and can be infectious their whole lives. Symptoms include high fever, muscle and joint pain, chills, drenching sweat and headache. They occur 2-18 days after bite. Cases occur in summer months when people sleep in rodent-infested cabins.

Tick Paralysis – Transmitted mainly by Rocky Mountain Wood Tick and American Dog Tick, Caused by toxins through the tick’s salivary glands being injected into the feeding site, most often at the back of the neck or base of the skull – feeding would occur for at least 5-6 days. Symptoms include unsteadiness, loss of reflexes; if not removed, respiratory failures can be fatal. Once the tick is removed, recovery is usually within 1-3 days.

Tularaemia – Disease caused by a bacterium and spread through arthropod bites (tick, deer fly) and contact with infected animals (rabbits, hares, rodents). Most infections can be treated through antibiotics.

More Information

CDC Website for Ticks: <http://www.cdc.gov/ticks/>

Arizona Department of Health Services Website for RMSF: <http://www.azdhs.gov/phs/oids/vector/rmsf/ticks.htm>

University of Arizona-Extension Bulletin for Ticks: <http://ag.arizona.edu/yavapai/publications/yavcobulletins/Ticks.pdf>

Connecticut Tick Mngmt Handbook: <http://www.ct.gov/caes/lib/caes/documents/publications/bulletins/b1010.pdf>