



BROWN DOG TICK

INFORMATION FOR VETERINARIANS

AN UNWANTED AND NOTIFIABLE PEST, THE BROWN DOG TICK, HAS BEEN FOUND ON A PET DOG IN CHRISTCHURCH.

Brown dog ticks (*Rhipicephalus sanguineus*) are widespread around the world and are common in tropical and subtropical climates, but have not established in New Zealand. They are actually a complex of species, with those occurring in Australia recently named *R. linnaei*. Biosecurity New Zealand (the biosecurity arm of the Ministry for Primary Industries) has found and eradicated this tick on rare occasions in New Zealand previously.

Dogs are the preferred host of the brown dog tick. While it is rare, other species can be affected, including cats and humans. The brown dog tick can vector some diseases exotic to New Zealand, such as *Babesia canis*, *Babesia gibsoni* and *Ehrlichia canis*, and heavy infestations of ticks can be uncomfortable for dogs.



Fully-fed female (left) and male (right) adult.

Biosecurity New Zealand is asking vets, particularly in the South Island, to increase your vigilance for ticks. If you find a tick, please phone 0800 80 99 66 and retain the tick in a small pottle until you have spoken to the duty incursion investigator.

Brown dog ticks have a three-host, four-stage life cycle where they develop from an egg into larva, nymph and then adult requiring a blood meal to complete development at each stage after hatching. Each active stage drops off the host after feeding, moults and then relocates onto the same host or a new host. All life stages of the brown dog tick prefer to feed on dogs. Much of the tick's life cycle is spent off the dog, and this species has become fully adapted to indoor living in temperate climates – this means a population could potentially establish in New Zealand, even in cold climates such as Christchurch.



HOW COULD THESE TICKS GET HERE?

Biosecurity New Zealand has robust measures in place to prevent arrival of ticks. No animals can be imported without previous vet inspections (both before departure and on arrival) and treatment for ticks.

In this case, the dog concerned is not imported and has lived in New Zealand all its life. However, the dog's owner recently returned from overseas, and the most likely scenario appears to be that the tick hitch-hiked into New Zealand with the owner or their belongings, before attaching to their dog. Because the tick was an engorged female, we know that it was mated by a male tick. This could have occurred before it came to New Zealand, but it does raise the possibility that there could be more brown dog ticks in the area. At present, there is no evidence that this is the case, however we are asking vets and owners to increase their vigilance for ticks to raise our confidence that this was a one-off incursion of a mated female tick.

WHAT IS BIOSECURITY NEW ZEALAND DOING ABOUT THIS?

Biosecurity New Zealand staff have visited and inspected the dog's home and the groomers where the tick was found. No further ticks have been found at either location, however both sites have been fogged with an appropriate acaricide out of caution. As a further precaution, the dog, along with some other in-contact dogs, were treated for ticks. We don't believe there are other infected places, however we are increasing our surveillance out of an abundance of caution.

WHAT DOES THE BROWN DOG TICK LOOK LIKE?

Unaided visual examination alone cannot definitively distinguish brown dog ticks from the common cattle tick (*Haemaphysalis longicornis*), and expert identification is required. This can often be done via a high-quality photograph of the tick, however, sometimes the tick

itself will need to be submitted to MPI's Plant Health and Environment Lab.

Brown dog ticks are red brown in colour and vary in size depending on the stage in their life cycle.

Unfed larvae and nymphs are hard to see, being less than 1mm in length and often concealed in the dog's fur. Adult males take only small blood meals, while females take large meals and increase in size dramatically. The engorged female is the most easily identified as oval in shape and approximately 1cm in length and about 0.5 cm in width.

Adult ticks and nymphs tend to attach to the dog's ears, nape of the neck, shoulders and between the toes, while larvae are often found along the belly and flank.

WHAT TO DO IF I FIND A TICK

- Carefully remove the tick from the animal (instructions below)
- Take clear photos of the tick on a white background (eg a piece of paper) with a ruler for scale
- Place the tick in a pottle
- Call MPI's exotic pest and disease hotline at 0800 80 99 66 to report the tick

HOW TO REMOVE TICKS

Ticks can be removed using tweezers to gently rotate and slowly pull the tick off the animal, however, this can result in the mouthparts remaining attached and causing irritation to the animal. Another option is to soak a cotton ball or gauze swab in meths and hold this over the tick for a few seconds. The alcohol kills the tick, and it drops off the animal intact. Whatever method is used, please ensure the tick is retained until you have received further instructions from MPI. If a tick is found on an animal, it is recommended that the bite wound is disinfected, and the animal treated with an appropriate acaricide. If treatment is required for brown dog ticks, Biosecurity New Zealand will pay for this.

Biosecurity New Zealand relies on practising veterinarians working as New Zealand's eyes and ears, to detect and report unusual events so that we keep the country free of unwanted pests, such as the brown dog tick. If you do find a suspicious tick on a dog, please report the incident to the exotic pest and disease hotline: 0800 80 99 66. We can arrange to get it identified at one of our laboratories and, if it is found to be an exotic tick, we can work in partnership with you to eradicate this pest.