



**CALIFORNIA STATE SCIENCE FAIR
2002 PROJECT SUMMARY**

Name(s) Cameron B. Clegg	Project Number J1904
Project Title What Ticks Want: An Evaluation of Ticks in Arroyo Verde Park	
Abstract Objectives/Goals The goal of my project was to determine if ticks capable of carrying Lyme's disease live in Arroyo Verde Park. I was also interested in investigating what ticks are attracted to. Methods/Materials I collected ticks on different occasions at the park by dragging a flannel cloth along the bushes that line the running trail. After identifying what kinds of ticks I found, I put them into the testing apparatus to determine what they were attracted to. I designed the testing apparatus, which was a petri plate with three holes in the top, and test tubes over the holes. In each test tube I put a small sample of the "attractant". Over the course of my experiments, I tested human sweat, dog hair, light, as well as dog hair from a Frontline treated animal. Of course, in each test, one of the tubes had nothing in it to serve as my negative control. Results I captured three different types of ticks. I identified eleven American Dog ticks, six Western Black-legged ticks and one Pacific Coast tick. The Western Black-legged tick (<i>Ixodes pacificus</i>) is a known carrier of the Lyme's disease-causing bacteria. Although I don't know if these specific ticks were infected, it is possible that they were carriers. After running 24 independent experiments, I found that all of the different types of ticks were most attracted to the dog hair. Interestingly, after we treated our dogs with Frontline, their hair was no longer attractive to the ticks! Conclusions/Discussion 1. I found three types in Arroyo Verde Park, including the known carrier of Lyme's disease, <i>Ixodes pacificus</i> . 2. All of the different types of ticks were most attracted to dog hair until we treated our pets with Frontline. In conclusion, my hypothesis was correct. There were ticks capable of spreading Lyme's disease in Arroyo Verde Park and they were attracted to dog hair.	
Summary Statement I wanted to find out if ticks that can carry Lyme's disease bacteria live in our local park, and also what they are attracted to.	
Help Received My Dad and Mom got supplies for me, taught me how to use the graphing program and helped me collect ticks.	