



**CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY**

Name(s) Brenna A. Callero	Project Number J1506
Project Title Mosquito Larvae Beware! An Eco-friendly Approach to the Elimination of Mosquito Larvae	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals My objective was to study the current larvacides and their effects on the mosquito and then make my own plant extracts from plants found in Ventura County to determine whether these plant extracts could have a lethal effect on mosquito larvae. I studied and tested 28 plants found in, and around Thousand Oaks and determined that certain plant extracts were very effective in killing the mosquito at the larval stage. I extended my research to include the copepod, which is a small crustacean with a great appetite for mosquito larvae. I decided to mix these creatures with my most lethal extracts to determine whether I could kill the larvae even faster without harming the other organisms and found I could do so.</p> <p>Methods/Materials I will use the simple tea method using ground plant material which I will place inside of coffee filters, tie with a string and add to a jar filled with boiling water. I will then steep the plant bags in order to make a strong plant extract. To set up the mosquito larvae use a beaker, and take 450 ml. of the water from the main source bucket and add to the mosquito breeder jar. Repeat this procedure three times, transferring pond water into each of three breeder jars. Using a Mosquito pipette, add 25 larvae to each of three mosquito breeders. Next, add 2 grams of growth inhibitor (Bti) to each of the three sample mosquito breeder jars. Watch over the jars for 15 days and record number of surviving larvae, if any.</p> <p>Results In my results, I found that copepods did a much better job of attacking and killing the mosquito larvae in the water samples and killed them much quicker than the Bti control. When added to the more lethal of the extracts the lethal results were amazing. An insect larvae killer made from plants should be harmless to non-target organisms, harmless to humans and highly effective. Use of plant extracts instead of synthetic insecticide would be cheaper, more effective and environmentally friendly.</p> <p>Conclusions/Discussion In conclusion, this experiment proved my hypothesis by demonstrating that there are several plants growing in Ventura County having larvicidal capability. The copepod-plant extract combination effectively and dramatically killed all of the mosquito larvae in an amazingly short period of time, which was also consistent with my hypothesis that copepods combined with plant extracts would be more lethal than just the copepods.</p>	
Summary Statement Eco-friendly elimination of mosquito larvae utilizing natural plant extracts and copepods.	
Help Received Mother drove to Vector control for Mosquito Larvae	