



**CALIFORNIA STATE SCIENCE FAIR
2016 PROJECT SUMMARY**

Name(s) Carly Hill; Mira Lion	Project Number <p style="text-align: right;">36215</p>
Project Title Effect of Sea Surface Temperature on the Presence of Acanthocephalan Parasites in Emerita analoga	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals Sand crabs are generally regarded as an indicator species of the health of sandy beach ecosystems. Sand crabs are also the intermediate hosts of acanthocephalan parasites that are hazardous to the health of seabirds and marine mammals such as otters when ingested. The goal of our project this year is to determine if there is a correlation between sea surface temperature and abundance of acanthocephalan parasites in Emerita. We hypothesize that there will be less acanthocephalan parasites this year due to the warm water of El Niño and the #Blob#.</p> <p>Methods/Materials This year we are continuing to gather data monthly on number and sex of sand crabs at Seabright beach following limpets protocols. In addition, beginning summer 2015, we started collecting and dissecting sand crabs to quantify the parasite load. To determine if there are a high number of parasite eggs in the water, we will use mortality rates of otters and sea and shorebirds which are hosts of the parasites. We follow the LiMPETS (Long-term Monitoring Program and Experiential Training for Students) protocols for Sandy Beach Monitoring to survey the distribution and abundance of Emerita at Seabright beach. We also use these procedures to dissect the sand crabs and discover the prevalence of parasites seasonally.</p> <p>Results We started our project in fall of 2014 and we found that sand crabs are most abundant during spring. Thus far this year, we have found that sea surface temperature does not affect abundance of Acanthocephalan parasites.</p> <p>Conclusions/Discussion We found no evidence to suggest that acanthocephalan parasites are affected by sea surface temperature. This shows that fluctuations in acanthocephalan parasite abundance must be caused by some other factor.</p>	
Summary Statement After collecting many samples of acanthocephalan parasites from sand crabs and comparing their abundance to the sea surface temperature at the time, we found no evidence to suggest a correlation between SST and parasite abundance.	
Help Received LiMPETS coordinator, Emily Gottlieb, showed us how to do the procedure. Dan Merritt, former professor, helped us gather research concerning otter deaths attributed to acanthocephalan parasites. Jane Orbuch, a science teacher, helped us be prepared for the science fair by providing us with necessary	