



**CALIFORNIA STATE SCIENCE FAIR  
2017 PROJECT SUMMARY**

<b>Name(s)</b> <b>Momtahina Tahmida</b>	<b>Project Number</b> <b>S2211</b>
<b>Project Title</b> <b>The Effects of Diet Supplements on Heart Palpitation of Palaemonetes</b>	
<b>Abstract</b> <b>Objectives/Goals</b> The objective of this experiment was to determine if diet supplements, (2, 4 Dinitrophenol Sodium, Sida Cordifolia, and Coumarin) would have an effect on heart rate and life expectancy of Glass Shrimps (Palaemonetes). My hypothesis is that if diet supplements (2,4 Dinitrophenolate, Sida Cordifolia (Bala), and Coumarin) is tested for maximum effect on the heart rate of Palaemonetes then, 2,4 Dinitrophenolate will have the maximum negative effects on the heart rate of Palaemonetes. <b>Methods/Materials</b> Solutions of the supplements (2, 4 Dinitrophenol Sodium, Sida Cordifolia, and Coumarin) were made based on estimated dosage for glass shrimps. Dosage of the supplements obtained by comparison with LC50 and LD50 of other animals for each supplement. <b>Results</b> Heart rate of glass shrimps were measured before and after exposure to the supplements for comparison of effect. There was a significant increase in heart rate after exposure to 2,4 DNP Sodium compared to the other supplements. <b>Conclusions/Discussion</b> A significant increase in heart rate of glass shrimp in the 2,4 dinitrophenolate sodium experimental group indicates relation to negative effects as it leads to oxygen consumption and coronary flow increase, which are symptoms of heart failure. This contributes to established research on the supplement by depicting its toxicity along with toxicity of the other supplements.	
<b>Summary Statement</b> I compared effects of diet supplements(2, 4 Dinitrophenol Sodium, Sida Cordifolia, and Coumarin) on heart rate of Palaemonetes to depict their toxicity.	
<b>Help Received</b> I designed the experiment and performed it myself after reading research articles and other experiments. My STAR I teacher, Mrs.Ramirez-De La Cruz, reviewed my experiment.	