



**CALIFORNIA STATE SCIENCE FAIR
2008 PROJECT SUMMARY**

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| Name(s) Nicole N. Nakata | Project Number S2013 |
| Project Title Hydroid Preference of Nudibranch Flabellina iodinea | |
| Abstract Objectives/Goals Nudibranchs are highly specialized feeders, consuming only a single genus or species of plant or animal. Hydroids are the preferred food source of most aeolid genera, of which the Spanish Shawl belongs. Several texts hold that the Spanish Shawl's food source is the sticky hydroid Eudendrium, and other are even more specific naming the species Eudendrium ramosum, but do not do so conclusively, but solely make note of the nudibranch's inhabitation of said hydroid. Hence, this experiment was conducted in order to ascertain the nudibranch's preference to the hydroid E. ramosum. Preference was determined by weight gain in the animals, and the disappearance of polyps from the hydroid branch Methods/Materials The nudibranchs were fed weekly, with weights taken the day of feeding, the day after, and one week later (before the next feeding). Weights were taken using a small petri dish filled with water, measured in grams. Since nudibranchs gain their coloring from the chemicals within their food, the Aglaophenia hydroid was soaked in astaxanthin, the pigment that causes the coloring in the nudibranchs, to make it more appealing. Results However, the nudibranchs showed no interest in the Aglaophenia hydroid and steadily lost weight. On the contrary, the nudibranchs fed the Eudendrium hydroid gained weight when weighed 24 hours later. The nudibranchs were often found grazing on the Eudendrium, whereas none were found on the branches of Aglaophenia. Conclusions/Discussion After comparing the weight changes in the two groups of nudibranchs, it is clear that Spanish Shaws prefer the hydroid Eudendrium. In addition to raising the nudibranchs, culturing methods for the Eudendrium were tested for the maintenance of the nudibranchs. | |
| Summary Statement My project was conducted to determine the food preference of the Spanish Shawl | |
| Help Received used lab equipment at Cabrillo Marine Aquarium under Dr. Kiersten Darrow | |