



**CALIFORNIA STATE SCIENCE FAIR
2011 PROJECT SUMMARY**

Name(s) Elizabeth A.R. Garfinkle	Project Number S2202
Project Title Is It a New Species?	
Objectives/Goals There are many species within the genus of clams <i>Tucetona</i> . Recently a clam emerged from Baja California that fit in the genus <i>Tucetona</i> , but did not fit into any of the species already described. The clam was studied by taking observations and measurements by counting, sketching, and observing under a microscope. Similar studies were done on <i>Tucetona bicolor</i> , <i>Tucetona multcostata</i> , and <i>Tucetona strigilata</i> , clams in the same genus, to act as a control. They were then compared to the new shell and found to be similar, yet different, confirming that the clam is new. A scientific article was written and the clam was recorded as a new species. The next step for this project is to research more about the fossil record of <i>Tucetona isabellae</i> and study, describe, and publish scientific articles on more possible new species of clams.	
Abstract Methods/Materials Clam Specimens: <i>Axinactis inaequalis</i> , <i>Tucetona flabellate</i> , <i>T. bicolor</i> , <i>T. strigilata</i> , <i>T. multcostata</i> ; Clam of interest: <i>Tucetona</i> sp. 1; Scientific articles and journals (see Reference List); Calipers; Nikon D1 camera with lighting system; Lab counter; Dissecting microscope; Forceps; Lab notebook, pens, and pencils. I. Research background information on species description II. Research background information on <i>Tucetona</i> sp. 1, location and distribution, family, genus, and species III. Consult expert scientists in the field (see Reference List) IV. Take observations and measurements of <i>Tucetona</i> sp. 1; shape, sculpture, color, hinge plate and teeth, adductor muscle and pallial scars, inner ventral crenulations and ribs, and chevron grooves by counting, sketching, and observing under a microscope V. Repeat observations and measurements done in step 4 with the Clam Specimens (see Materials List) VI. Compare observations and measurements from steps 4 and 5 VII. Analyze data and compile observations, measurements, and analyses into a scientific article for publication to describe and record the clam of interest as a new species of bivalve mollusk VIII. Take pictures of <i>Tucetona</i> holotype, paratype, syntype, and vouchers. IX. Publish scientific article in <i>Zootaxa</i>	
Summary Statement I tested and described the characteristics of a clam to determine whether or not it was a new species.	
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