NOAA Teacher at Sea
Taylor Parker
Onboard NOAA Ship *Oscar Elton Sette*
April 19 – 29, 2009

NOAA Teacher at Sea: Taylor Parker
NOAA Ship: *Oscar Elton Sette*
Mission: Hawaiian Bottom Fish Survey
Geographical area of cruise: South side of Oahu
Date: April 19th, 2009

Weather Data
Calm winds of about 5 knots. 30% -50% Cloud cover. 80F degrees.

Science and Technology Log
Welcome to my ship logs! On our cruise we are studying bottom fish in the waters around the Hawaiian Islands. The purpose of studying bottom fish is because of their popularity by commercial interests. These animals are well fished by local boats and there is much to learn about them and their life histories for sustainable fisheries management. Better knowledge of life history traits, such as age, growth and size and age at maturity will help current efforts to assess the bottom fish fisheries in the main Hawaiian Islands.

NOAA Ship *Oscar Elton Sette*

This weekend was exciting. After our cruise being delayed about a week due to various generator problems, it was decided that we would begin some of the bottom fish research from the smaller SAFE boats. On Saturday, April 19th, two teams hauled two boats (a 15 ft and 20 ft SAFE boat) to a boat ramp near Diamondhead on Oahu. Both were deployed at approximately 8:00am with the smaller boat studying "slicks" for conductivity, salinity and temperature as well as phyto- and zooplankton. The other boat, the one I was on, studied the bottom fish we pulled up. The smaller boat concluded their operations around 2pm while our boat finished at 4:30pm. All together our boat spent about 8 ½ hours on the water; we ate several sandwiches, drank a lot of Gatorade and used about a bottle of sunscreen. The weather was incredible with very little wind and few clouds until 2pm. The winds around Oahu pick up in the early afternoon and create some challenging swells.

As for the work done on the boats, we studied “slicks” and bottom fish. Slicks are the visible trails created in the water due to converging water flow. This trail has less turbulence than surrounding current and many fish larvae are found within these mini-refuges. They are called slicks because of their resemblance to oil slicks and that is partially because of the accumulation of oils from the many marine species. The smaller boat worked with specially adapted collection devices and finished the day with a bucket worth of sample to analyze.

Our boat dropped lines in the water several times to depths ranging from 100 – 230 meters to hopefully catch different bottom fish species. The gear we used consisted of:

- Two motorized reels
- Several hundred meters worth of monofilament mainline on each reel
- At the bottom of the mainline a “blood” line was connected. It is called so because of the red color of the stronger line. A “pigtail” connection is attached to the lower end of the blood line to easily connect the interchangeable hooks and weight.
- Three or four hooks are then attached to an interchangeable line connected to the pigtail.
- Finally, a two pound weight is attached to the end of the line of hooks to bring the whole rig to the bottom.

The fish we are targeting remain at a depth of more than 100 meters on semi-hard to hard bottom (rock and crushed coral). Once an appropriate site was found, the coxswain maintained position while we fished. In total we caught 6 fish: 4 Ehu (*Etelis corbunculus*), a Gindai(*Pristipomoides zonatus*) and a kind of Large-headed Scorpion fish, Hogo (*Pontinus macrocephalus*). We released the scorpion fish because it is not part of the study and one of the Ehu because it was healthy enough to return after we took measurements.

Personal Log

I’ve never caught fish before. The only challenge I had in applying for this position was in my ability to kill another animal but I believe in the importance of research and recognize the beneficial impacts this work has toward promoting better stewardship of our natural resources. Catching a few fish for this cause seems justifiable and studying these creatures and their physiology is fascinating. After pulling the Ehu and Gindai from the water and seeing their remarkable oranges, red and yellows contrast against the blue of the swirling Hawaii waters, it surprises me that we cannot see these fish at all swimming directly underneath us. If the waters were truly clear, visible to the bottom, I believe the amount of and variety of colors we would see would mystify us.

Speaking of mystifying: the behemoth Humpback whale (*Megaptera novaeangliae*) visited us on our day trip. Although it is late in the season for them –most are on their way to the plankton buffet outside Alaska – we saw several momma whales swimming with their calfs. One time, on the horizon, we saw two humpbacks slapping their pectoral fins on the surface and crashing around with each other playing.

Additional:

New term/ phrase/ word

I’m learning new Hawaiian words: Puka means a hole or divet of any size and Pau is a term that has traditionally meant dead but has come to mean finished.