



**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: Kona coast of the big island Hawaii

Date: April 24, 2009

**Weather Data**

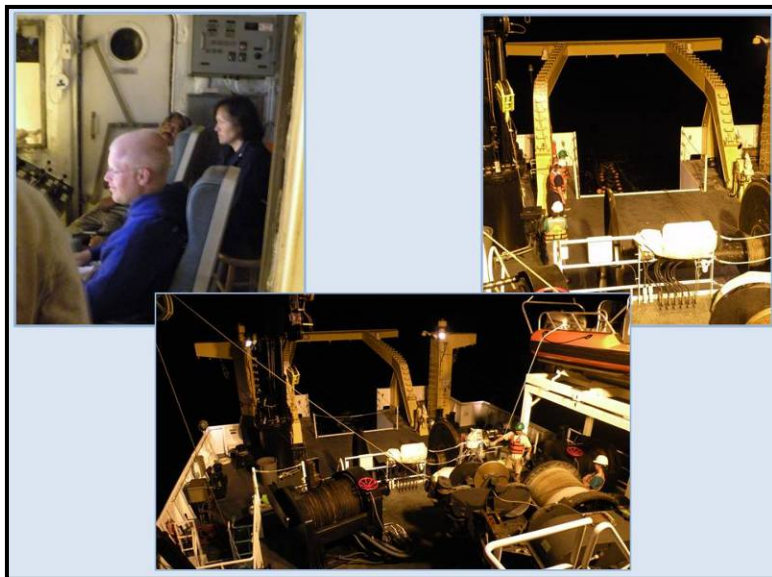
2ft rolling swells. Air temp:  
75F. Slightly cloudy with  
variable winds 3-5 Knots.

**Science and Technology  
Log**

One of the things that I've figured out is that fisheries scientists like nets. Big nets, small nets, blue nets and red nets. While I won't go any further with the rhyme, the nets do collect some rather Suess-like creatures. Tonight, we worked a big net and found those creatures.



**Sunset with glassy water**



**Lowering the net into the water**

The big net is the biggest on the boat and is called a Cobb trawl. The Cobb is deployed at night and is designed to capture pelagic organisms at deeper depths than the I/K or regular dip nets. The target species for this trawl is snappers. It is deployed at night for two reasons: 1) at night there is a better chance the fish won't be able to avoid the net because they can't see it and 2) a lot of the fish targeted follow the amount of light that penetrates the surface, they stay at the bottom during the day and swim up at night – this is



**Retrieving the net**



**Catch of the Day**

called vertical migration. The Cobb is about 30 feet long and has a mouth opening of 7.5 feet that gradually tapers down to a foot long detachable cod-end. It can be dropped to different depths depending on the amount of line let out. There is a 2:1 difference, so if 1,000 feet of net is released then it will drop to 500 feet below the surface. The *Sette* motors at 3 knots for about 3 hours while the Cobb is busy collecting the ocean denizens. The cod-end is only in the water for two of those hours. The scientists have been either targeting two depths and spending an hour at each or have been staying at one site for two hours.

It takes a crew of at least 4 line-handlers, a crane operator, engineers working on the hydraulics and synchronizing between the officers piloting the boat from the stern and those on the fly-bridge just to keep the large net in the water safely. It is a long and coordinated process to retrieve the necessary sample of a couple pounds. For safety reasons, the scientists are required to stay away from the net until everything is on deck and the winch holding the net is off. But once the Cobb is brought up, it is like horses at a track: there is a rush to see what was caught. And I've never seen such large 8-year-olds as the scientists; mesmerized by the hundreds of fish,

larvae, jellies and other fascinating creatures the group piles in around the sampling trays and quietly picks through trying to find the rare and unique.



**A hydro-lab full of scientists**

The haul is definitely something to get lost within. With so many different fish stacked on top of each other and the seemingly infinite



**The Snaggletooth**

number of marine invertebrates, trying to find a juvenile Snapper or rare Lantern fish with a pair of small forceps is much like those claw-games that keep eating your quarters. Of course, the rare and interesting species are analyzed but the rest of the fish need to be sorted also. While trawling took 3 hours, going through the collection was easily a couple

hours.

In the end, I was most intrigued by the eel larvae, the Snaggletooth and the flat fish. If you've ever had monsters in your dreams these are probably the culprits. The eel larva is flat, nearly transparent and when stretched out is almost a foot long. It has a black spot (maybe two but it is



**Flat-fish larva**



**Scientist Bruce Mundy with eel larva**

hard to tell) at the front of its body (you can't tell that either, really) that I am supposing is its eye. Imaging this creature swimming around my feet is already making me shiver. The Snaggletooth is probably the most horrifying. They are only 5 inches or so but if they were the size of, say, my arm, I would never go in the ocean again. The flat fish babies are just gross. While all of these creatures are going to make me sleep with the lights on tonight, they are marvelous representatives of the ocean creatures these NOAA scientists are studying.

### **Personal Log**

The Cobb is interesting because it starts 7.30pm and is a whole lot of nothing with bookends of activity. There is a lot of action to get it out, you watch the net in the water for 3 hours, a lot more activity to get it in and then for two hours is the fish



**A "caught and released" seahorse**

sorting. I knew this before-hand and that is why it took me a week to stay up for it. But today I took a nap in the afternoon and was determined to wait for the net. I'm very happy I did because I wouldn't have seen the stars in the cloudless Hawaiian sky on the moonless night, nor would I have been privy to the green bioluminescence off the bow wake. Also, the catch was a catalyst for the scientific banter in the hydro-lab where everything was sorted. Names of fish were flying past me at exceedingly high speeds and were volleyed by the appropriate guttural sound of "ohh" and "awe" from across the lab. It was well worth a late night bed time, even if the Snaggletooth is waiting for me.

### **Did You Know?**

The net is named after John N. Cobb who lived from 1868- 1930. He was, among other things, Dean of the College of Fisheries at University of Washington in 1919, the only college of fisheries at the time.

My roommate on the *Sette*, scientist Bruce Mundy, told me another interesting thing. Just off of where we stationed for the Cobb trawl is the site where Captain Cook was killed by the local Hawaiian population on Valentine's Day in 1779. He was the first European to reach Hawaii on his way to discover the Northwest Passage. Everything was good on the first trip. After a year, however, he returned and he didn't manage the local politics well. Hawaiians stole one of his boats and he was subsequently beaten and stabbed after trying to take the Hawaiian's King as a hostage for ransom of his boat. Nevertheless, the local peoples honored him as they would have their own royalty, giving his funeral similar rites. Apparently there is shrine dedicating his place of death in Kealakekua Bay.



**Kealakekua Bay**