



**NOAA Teacher at Sea
Tara Treichel
Onboard NOAA Ship NANCY FOSTER
April 15 – 27, 2008**

NOAA Teacher at Sea: Tara Treichel
NOAA Ship NANCY FOSTER
Mission: Lionfish Survey Cruise
Date: Friday, April 25, 2008
Geographical area of cruise: Onslow Bay,
Atlantic Ocean off coast of N. Carolina

Weather Data from the Bridge

Visibility: 10 n.m.
Wind: 2 knots,
Waves: 1 foot
Ocean swells: 2-3 feet
Sea surface temperature: 23.4
Air temperature: 21.5



The diver support boat NF-4 waits for the dive team to surface.

Science and Technology Log

Today the morning dive at Lobster Rocks went to 125 feet. The report was that it was an excellent dive, and the video showed this to be true. The visibility was excellent and the habitat looked rich. Among the



NOAA Teacher at Sea, Tara Treichel, has just taken length and number of fin ray measurements from this large lionfish, and has removed gonads and a gill sample for lab analysis.

Amberjacks, Grouper, Blue Angelfish, and Hogfish, were tons of Lionfish! They were everywhere, lurking around every ledge and rock. They look like princes of their domain, regal in their showy capes of red and white, brandishing lances to keep out intruders. Neither aggressive nor fearful, as they have few if any predators, they hover in place, guarding their territory from other lionfish.

The morning divers brought a small collection of creatures back for further study, including a sample of bryozoans (a form of attached invertebrates that looks a lot like algae), a large spiny lobster (carapace at least 5 inches in diameter), a handful of fish for the cryptic fish survey, and about a dozen Lionfish. I helped Wilson take basic measurements from the Lionfish, and dissected them to remove gonads and gill samples for DNA analysis. The fish

ranged in size from 150 to 380 mm, from mouth to end of tail. Next, dorsal and anal fin rays are counted, to help determine species classification (lionfish are of Indo-Pacific origin, and are classed in two subspecies based on number of fin rays). On the fish sampled, dorsal fin rays varied between 10 and 11.5, but anal fin rays consistently numbered 7.5. After I had removed the gill section and gonads, I gave the fish to Brian, who opened up their stomachs to take a cursory look at what the fish had been eating. In one, he found a small spiral shell about the size of a shirt button. In another, the stomach was bulging full, and contained four small fish, whole but partially digested and terribly stinky. All in a day's work of a scientist! After this initial information was collected, the fish were labeled in zip-lock bags and frozen for later study.



The stomach of this small Lionfish contained four partially digested whole fish.

Personal log

Today I had the fortune—and the misfortune—of getting out in one of the small boats. I say fortune because the conditions were ideal: calm seas and sunny blue skies. It was a great day to be out on the water, and I expressed an interest in going for a swim. We were responsible for shuttling the safety diver to assist the dive team, and transporting the dive team back to the NANCY FOSTER. The misfortune occurred toward the end of the dive, as the safety diver was trying to reboard the boat. To make it easier for him to enter the boat, the skipper removed the side door of the craft, a routine task. Under normal circumstances, the bilge pumps purge any water that splashes into the boat, but on this day, for reasons unknown the bilge was already full of water, and the water that surged into the open door space quickly filled the stern of the boat. We tried to replace the door, but the water was spilling in too quickly, and the boat slowly overturned. So, I got my wish to swim faster than I'd expected! Fortunately, as I mentioned, it was a fine day for a swim. Minutes later, two rescue boats were deployed from the NANCY FOSTER, and shortly after we picked up the dive team and were safely onboard the mother ship again. The ship had quite a challenge getting the overturned boat back onboard and into its cradle, but with skilled use of the crane, the boat was recovered in little over an hour. It was the sort of adventure I had least expected when going out to sea. I was happy that no one got hurt, and impressed with the response of the NANCY FOSTER crew.