SEAMAIL™

FROM: DEEPEND Science Team
TO: DEEPEND Virtual Team Leaders
SUBJECT: Team Crusty

Hi Kids!

My name is Heather Bracken-Grissom and I am a marine biologist that studies deep- sea crustaceans. Crustaceans are animals such as shrimp, crabs, lobsters, isopods (rollie pollies), and amphipods. I am part of the Team we lovingly call, 'Team Crusty." We are in charge of collecting and identifying crustaceans that we catch using a net called the MOCNESS.

To collect the crustaceans, we deploy MOCNESS. It opens and closes at 6 different depths:

FEET	METERS
0 to 656 feet	0 to 200 meters
656 to 1960 feet	200 to 600 meters
1,960 to 3,281 feet	600 to 1,000 meters
3,281 to 3,937 feet	1,000 to 1,200 meters
3,937 to 4,922 feet	1,200 to 1,500 meters

Net samples as deep as 1500 meters, which is equal to about 150 football fields in length into the deep dark ocean!

MOCNESS allows us to target crustaceans that live at different depths. The net stays above the bottom of the ocean so we are targeting crustaceans that live in the water column and not on the bottom of the sea floor.

Most of the crustaceans that we collect move up and down in the water column every day. This is called ***vertical migration***. They migrate great distances (100s of meters!) every night to feed in shallow waters where the food is more abundant. During the day we catch these crustaceans in the deep waters but at night we can see them in the shallow waters when they are feeding.

Even though most of these crustaceans vertically migrate, some species prefer to live in shallower waters while others prefer deeper waters. In the shallow waters we find a lot of krill (PHOTO 1) and sergestid shrimp (PHOTO 2). Krill and sergestids are small shrimp-like animals that whales and fish love to eat. Krill tend to be transparent or light colored. Sergestids range from orange, purple, translucent to reddish-pink. We also see a lot of other crustaceans that like to live in the surface waters such as amphipods, isopods, and other shrimp. As we move farther down into the water column we start to see a lot of shrimp that are bright red in color (PHOTO 3 & 4)! Do you

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know why they are so red? Red light does not travel far in water. Because of that, most deep-sea animals cannot see red. That means, in the deep, red looks black. Being the color red allows them to better blend into their surroundings as a form of camouflage. The red shrimp belong to a really cool family called Oplophoridae. The shrimp produce a bioluminescence "vomit" when it is scared to help protect them from predators. (PHOTO 5)

So far we have collected many different types of crustaceans. Most of the crustaceans we catch look like shrimp but are many different species. Just in case you were wondering, we cannot eat any of the shrimp that we catch. This is because they are too small in size and would not taste very good. I hope you liked learning about crustaceans because crusties rock! The MOCNESS just came up from its own version of a vertical migration, so I have to go and look for more deep-sea animals!

"Sea" ya later!

Heather

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Creep into the DEEPEND Mission