HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT
DIVE: P5-766

MISSION STATUS

Location: west side Oahu

Latitude: **21**° 23.026 **Longitude:** 158° 14.643

Mission Date: Mar_24_2011 **Duration:** **8** hours 15 mins

Maximum Depth: 1053m, all of dive between 1030 and 1053m

Project Title: Measuring Animal Metabolism in Hawaiian Bathyal Environments

Principal Investigator: Jeff Drazen

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Department of Oceanography
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Honolulu, HI 96822

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Observer 1: Jeff Drazen (port)
Address: same as above

Observer 2: Jason Friedman (starboard)
Address: same as above

Pilot 1: Terry Kerby **Pilot 2:**

Scientific Data Acquired: Prepare an abstract outlining your objectives, techniques, findings, etc.

Objectives:

1) Capture a diversity of benthic animals and measure their metabolism in the laboratory to estimate energetic demands

   To accomplish this goal and bring the animals back alive we used three techniques
   a) A modified slurp gun with plastic insulated barrel and ball valve to keep cold *in situ* water inside – for crabs, shrimps etc
   b) A modified biobox – thick walled PVC for insulation – to place animals, mostly echinoderms, in after capture with scoops and the manipulator arm
   c) An insulated baited trap – for capture of mobile shrimps, crabs, and fishes

2) Perform submersible transects to measure animal densities so that the metabolism data can be extrapolated to the ecosystem level

Transects were 15minutes with the HD camera faced forward viewing 3m wide swath of seafloor and observers performing counts from their fields of view

Observations, findings, etc:
Landed on moderate slope with manganese encrusted carbonate small talus and outcrops. Moving SE along contour we went across an area of relatively flat mud. This ended at a wall (~6m high) with corals and sponges and dropped to a small canyon which we proceeded up (NE) along for a short distance. Talus near landing had many small galatheids and some larger Munnidopsis, also lots of halosaurs, Gadomus melantopterus, and rattails. Rock wall area had many corals and sponges. Throughout dive Nematocarcinus shrimp, halosaurs, and rattails were common. Echinoderms were consipicuously sparse – not a single echinoid was observed. Paelopatides were not common. Three transects were conducted and many animals were collected with the slurp gun and manipulator arm. The trap was placed and captured Heterocarpus shrimp and two large red lithodid crabs.

Species list:

<u>Very abundant (observed more than 15 times)</u>
Halosaurs
Nezumia/Sphagemacrurous
Gadomus melanopterus
Nematocarcinus
Munida?– small and yellowish - not Munnidopsis
Acanthephyra
Sea pen – Virgularia

<u>Abundant (observed more than 5 times)</u>
Cerianthids
Aristeus semidentatus (called all of these Benthiscymus in sub)
Homeryon asper
Ophiuroids
Benthiscyimus lacianatus
Sladenia remiger
Paelopatides retifer
Henricia robusta
Munnidopsis
Trachonurus sentipellus (jason saw several, jeff saw one)
Nereidiaster bowersi
Platysterum sponge (cone like sponge called out by Jason)

<u>Observed a few times</u>
Synaphobranchus
Alepocephalidae
Chonelasmid leaf
Farrea sp1 (called F. occa in sub)
Corralium ducal/abyssal (called them Paragorgia on dive)
Acanthogorgia
Actinostolid tan
Chrysogorgia geniculata
Calyptophora wyvillie
Heterocarpus laevigatus (near trap at recovery)

Apristurus
Coelorhinchus doryssus
Coryphaenoides longicirrhus?
Bathycongrus guttulatus? – dark congrid eel – but perhaps Media abyssalis
Nettenchelys gephyra – very small so hard to confirm ID
Chirostylid crab – one in open, several on coral
Nettastoma parviceps

Observed once
Neolithodes sp.
Walteria sp4
Caulophaucus
Bolosoma sp1
Dictyaulus? - Small vase sponge (open at top)
Alepisaurus ferox
Morid – unidentified, black, not A. microlepis
Asthenactis papyrus
Dragonfish (Melanostomiidae)

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

The slurp gun seemed to have lost power – upon descent it was not working at all but backflushing got it going again. It may be an instrument which requires maintenance between every dive to remove grit and dirt from the impeller.

The sonar stopped working shortly after landing on the seafloor – cause unknown.

The bait in the trap was almost completely gone upon landing.

Recommendations for corrective action or improvement:

Clean slurp gun impeller before each dive

Sonar – no suggestions

Bait – it appears we got a bad batch of bait – the finest group material from the end of the bait grinding process. In the future we will use a bag of ground bait but also a whole mackerel or similar fish.

In your opinion, did the mission essentially achieve its purpose? Compare actual work accomplished with the work that was expected to be accomplished.

Yes, despite some early equipment issues we successfully collected many animals. We also conducted three transects.

List specimens or samples collected on the mission.

Specimens
Echinoderms
(3) Henricia robusta
(1) Paelopatides retifer

Crustaceans
(2) Munndopsis
(6) Galatheid – Munida
(1) Homeryon
(2) hermit crabs – in scaphopod shells
(2) Lithod crabs (from trap)
(4) Heterocarpus laevigatus (from trap)

DATA RELEASE

Data may be retained by the project leader for up to 2 years after the mission date with the following exception. NOAA may request to use photos for publication or publicity purposes at any time.

Fill in the appropriate statement below and sign this form.

I hereby release the data archived by HURL for public consumption following mission

Measuring Animal Metabolism in Hawaiian Bathyal Environments

held on Mar 22, 2011 (date) in the following way:

a. CTD data by immediately (date)

b. video and images by Mar 22, 2011 (date)

c. other Mar 22, 2011 (date)

d. I will give my written consent to individuals wishing to use these data prior to the above dates depending on the nature of the request(s).

_____ Principal Investigator