HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT
DIVE: P5-765

MISSION STATUS

Location: off Maili Point, Waianae, HI

Latitude: 21° 23.473 **Longitude:** 158° 12.856

Mission Date: March 23, 2010 **Duration:** 8 hours 2 minutes

Maximum Depth: 517m

Project Title: Measuring Animal Metabolism in Hawaiian Bathyal Environments

Principal Investigator: Jeff Drazen

Address: University of Hawaii
Department of Oceanography
1000 Pope Rd.
Honolulu, HI 96822

Phone: 808-956-6567

Observer 1: John Yeh
Address: same as above

Observer 2: Anela Choy
Address: same as above

Pilot 1: Max Cremer

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:

Touched down on a sandy flat bed where large numbers of the sponge *Sericolophus hawaiicus* covered the sea floor. Proceeded to the NE, started transect 1 (all transects 15 min in duration along 500m contour). Terrain varied from soft substrate gentle slopes to ridge and valley features punctuated by occasional rocky ledges. Sericelophid sponges continued to dominate the sandy substrate. After transect, we backtracked to a rocky ledge and deployed trap in an area with high abundances of Sympagurus dolfleini, epigonids, and Hetercarpus spp. Animal collection followed in the same area. After heading to SE along 500m contour past end of transect 1, transect 2 was started. Habitat was similar to transect 1. Animal collection followed. More animal collection followed SE along contour. Transect 3 started SE along contour. Habitat was mostly gentle sloping of substrate with few large boulders. Transect 3 ended in a submarine landslide area. After more collection, we recovered trap and surfaced.

Species list:

Abundant (observed more than 5 times)
Heterocarpus ensifer
Plesionika sp.
Myctophidae (*Benthosema* sp.)
Mediaster ornatus
Chlorophtahlmus spp.
Caelorinchus spp.
Epigonus spp.
Nezumia spp.
Grammicolepis spp.
Polymixia berndti
Satyrichthys engyceros
Cyrtomaia smithi
Malthopsis mitigera
Ventrofossia spp.
Sympagurus dolfleini
Unidentified (orange) Octopus
Sericolophus hawaiicus
Antigonia spp.
Ophiuroids
Galatheidae

Observed a few times
Heterocarpus laevigatus
Squalus mitsukurii
Bothus sp.
Cyttomimus stelgis
Histiocidaris variabilis
Calappidae
Cancer macrophthalmus

Chirostylidae
Paramola spp.
Stereocidaris hawaiiensis
Stylocidaris hawaiiensis
Unidentified Holothuroids

Observed once
Aspidodiadema hawaiiensis
Nototodaras hawaiiensis
Beryx splendens
Hollardia goslinei
Sternoptychidae
Scorpaenidae

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

During ascent the hose of the slurp gun became unhinged.

Recommendations for corrective action or improvement:

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

Yes – We collected an abundant amount of animals across a broad taxonomic range and brought the majority of the animals back alive using all 3 methods of sampling. 3 transects were completed as well.

List specimens or samples collected on the mission.

Specimens

Asteroids
(4) *Mediaster ornatus*

Ophiuroids
(3) unidentified

Echinoids
(2) *Stereocidaris* sp.
(1) *Stylocidaris* sp.

Crustaceans
(28) *Heterocarpus ensifer*
(2) *H. laevigatus*
(6) Galatheidae
(2) *Cancer macrophthalmus*
(2) Chirostylidae
(10) *Sympagurus dolfleini*
(3) *Pleseonika* sp.

Fish
(1) *Malthopsis mitigera*

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 March 23, 2010 (date) in the following way:

a. CTD data by immediately (date)

b. video and images by March 23, 2013 (date)

c. other March 23, 2013 (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