HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT
DIVE: PV-580

MISSION STATUS

Location: South Side Penguin Bank, Third Finger

Latitude: **20°** 55.9N **Longitude:** 157° 32.0W

Mission Date: 9-22-04 **Duration:** **8** hours 0 mins

Maximum Depth: 132 m

Project Title: Deep Seaweed Photosynthesis Research

Principal Investigator: Karla McDermid

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University of Hawaii - Hilo
200 W. Kawili St. Hilo, HI 96720

Phone: (808) 933-3906

Observer 1: John Runcie
Address: University of Technology
Sydney, Australia

Observer 2: Carlos Frederico Gurgel
Address: University of Louisiana
Lafayette, LA, 50704-2451

Pilot 1: Max Cremer **Pilot 2:** none

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

Objectives:

- Collect macroalgal specimens.
- Measure light attenuation with depth.
- Measure ambient light levels (photosynthetically active radiation PAR) at collection sites.
- Measure photosynthetic rate of seaweeds at various depths.
- Recovery of PAM data logger from 24h measurement of photosynthetic activity of seaweeds.

Observations, findings, etc:

The primary objective of this dive was to recover the data logger placed overnight at a depth of 102m, and to collect macroalgal specimens from varying depths. The submersible reached the bottom at 8:42AM at 20º 55.882'N by 157º 32.150' W. Before going after the data logger, we tried to do some in situ PAM analyses but John's lap top computer did not want to initialize the operational system (PC Windows). Many attempts to reboot the laptop were made, but nothing worked. Then, we went collecting samples. We noted the presence of many different tropical benthic and pelagic fishes. Meadows of *Distromium* (Phaeophyta) and flat urchins observed at 71 m at 10:03AM The data logger was retrieved at 20º 55.968'N by 157º 32.226' W at 11:13 AM. After that we collected samples at different depths along the Penguin Bank third finger. Target specimens for John: *Halimeda* and *Peyssonnelia*, depth range of interest: 90-140 m. Such specimens were found and collected. Other species collected at nearby areas: Codium mammillosum, Dasya sp., Anadyomene sp., Amansia aff., Cladophora aff. Dive terminated at 3:45PM.

Species list:

ALGAE

Halimeda
Red crusts
Red blades
Cladophora
Codium mamillosum
Dasya
Scinaia?
Distromium
Gelidium
Botryocladia
Dictyopteris
Dictyota ceylanica and red epiphytes
Delesseriaceae red blade
red epiphytes on Codium mamillosum
Monostromatic blades

SPONGES

Yellow

ECHINODERMS
running urchins

FISH
grey reef sharks
heaps of colorful reef fish
ulua, big ones!

CNIDARIA
coral

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

Personal laptop failed, possible humidity issue
Sample placement was too close on 24 h deployment

Recommendations for corrective action or improvement:

Dehumidify laptop prior to launch
Correct sample placement

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

Yes

List specimens or samples collected on the mission.

ALGAE (about 30 specimens in total)

Halimeda
Red crusts
Red blades
Cladophora
Codium mamillosum
Dasya
Scinaia?
Distromium
Gelidium
Botryocladia
Dictyopteris
Dictyota ceylanica and red epiphytes
Delesseriaceae red blade
red epiphytes on Codium mamillosum
Monostromatic blades

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 (project title)

held on 9-22-04 (date) in the following way:

a. CTD data by 9-22-06 (date)

b. video and images by 9-22-06 (date)

c. other Licor Light meter, PAM, Data logger 9-22-06 (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