HAWAII UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT MISSION NO. P5-081

MISSION STATUS

Location:	Off Kailua-Kona, Hawaii
Mission Date:	July 14, 1988
Maximum Depth:	1920 m
Project Title:	Reproduction of Abyssal Echinoderms
Project Leader:	Craig M. Young
Address:	Division of Marine Science Harbor Branch Oceanographic Institution 5600 Old Dixie Hwy. Ft. Pierce, Fl. 34946
Phone:	(407) 465-2400 ext. 303
Observers:	J. Lane Cameron, C. Young
Address:	same as above

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

Our goal was to collect abyssal echinoderms for studies of reproduction, embryology, and larval development. Following yesterday's dive, we fabricated a make-shift scoop in order to collect small animals and specimens in undamaged condition. The scoop broke shortly after arriving on the bottom. We collected 5 species of echinoderms successfully, of which two escaped the collection basket on the way to the surface.

One large spatangoid sea urchin was ripe, and we fertilized 2 cultures of its eggs. We obtained egg measurements and fixed gonads of the remaining species for electron microscopy. It appears initially that the spatangoid eggs did not fertilize, probably because of temperature stress occurring during transport to the surface.

We collected a piece of water-logged wood in order to seek representatives of the newly-discovered echinoderm class concentricycloided. Several individuals were present. This is, to our knowledge, only the third site where these animals have been found. The nearest Pacific locality is Australia.

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

1) Both video monitors failed before reaching bottom--no video was taken, and 35mm photos were shot without benefit of aim or focus.

2) One of the external lights flooded

3) Biological collections were severely hampered by the use of a primitive "claw" and simple basket arrangement.

4) No CTD was on board, and thermistor was not hooked up.

Recommendations for corrective action or improvement:

1) Hydraulic claw-bucket scoop and suction collection system are needed in order to obtain small and/or delicate biological specimens.

2) A collection system is needed for bringing deep-water animals to the surface in water, preferably in an insulated container. The present system works little better than a dredge.

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

Yes, mission was accomplished, based on the reduced expectations following the first dive in this series.

List specimens or samples collected on the mission.

1) Concentricycloides
2) 3 spatangoid sea urchins
3) 2 species, synallactid holothurian (1 lost)
4) 3 asteroids of two species (1 lost)

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 "Reproduction of Abyssal Echinoderms" (project title) held on July 14, 1988 (date) in the following way:

a. CTD data by None taken (date)

b. voice transcripts, video, and still camera film by July 14, 1990 (date)

c. other None (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).

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Project Leader