HAWAII UNDERSEA RESEARCH LAB
QUICK LOOK REPORT MISSION NO. P5-485

MISSION STATUS

Location: Kailua-Kona (19-37.642 N 156-02.159 W)

Mission Date: 3 December, 2001

Maximum Depth:

Project Title: Ecological Role and Faunal Associates of Abundant Hexactinellid Sponges on the Hawaiian Slope

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

There were 5 primary objectives to this dive and are discussed in order of completion.

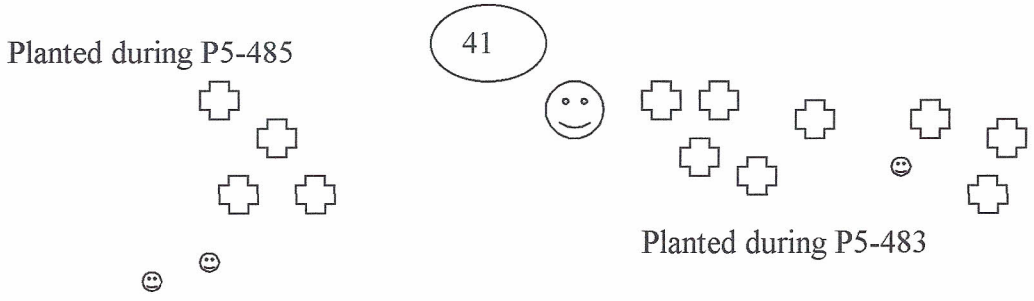
Objective 2. Quantify sponge pumping rates using fluorscein dye.

60 cc syringes, with a 2 pound weight attached with cable ties *and* duct tape as well as a plexiglass squares glued to the end of the plunger, were used to release fluorscein dye near the sponges. All observations of dye movement were video taped. We released dye on the dermal aspect (back of the catchers mit) of the sponges. Recordings were taken of 5 sponges which were actively pumping from both a lateral and overhead view. We also released dye on the gastral aspect (the catchers mit side) and at a "noninflated " sponge which was not drawn through the sponge.

Objective 1: Check on the status of the transplanted sponges. Reposition sponges as necessary.

Of the sponges at marker 14 only a few were still standing and all the sponges in the area were covered in a layer of silt. We collected 4 larger sponges for transplant and moved to marker 41 (337 m). At marker 41 only 2 sponges were standing (see wide angle video). Attempts to transplant the 4 large sponges failed as the weight of the catchers mit pulls the planted sponges out of the extremely fine sediment. Moved to 364 m to collect smaller sponges (n=5). Was able to successfully transplant 2 smaller sponges before the site silted over and prevented other work. Sponges at marker 4 (480 m) were in excellent shape as only one had fallen over. Wide angle video was shot of the transplants.

Figure 1. Locations of transplants at marker 41. Crosses are fallen over sponges, smiley faces are standing. Size of icon indicates relative size of sponge.



Objective 3: Take sediment cores near and away from sponges.

We collected 4 sediment cores using the punch cores at marker 14. 2 cores were collected in the sponge spicule base and 2 in areas away from the sponges (Figure 2).

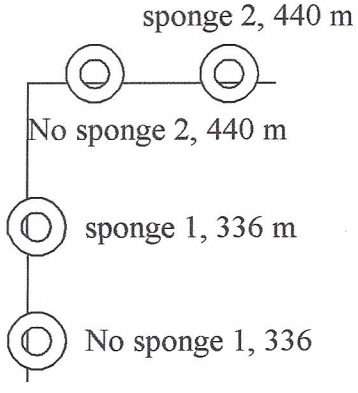


Figure 2. Diagram of corer assembly.

Objective 4: Use sponge suckers to collect near bottom water profiles.

This objective was not completed due to lack of time.

Objective 5: Take water column samples.

We collected a water column profile using the niskin botles on the top of the sub. Water samples were collected as described in Table 1. Samples collected from 500-300 m were collected with the sub on the bottom. Samples at 250- 5 m were collected while the sub ascended from the bottom.

Table 1. Water samples collected in niskin bottles on top of sub. Analyzed for chlla, ultraplankton.

Depth	Bottle	T°C	Time
500	1	6.8	1514
450	2	7.3	1523
400	3	8.9	1531
350	4	9.5	1537
300	5	11.6	1542
250	6	13.7	1548
200	7	16.6	1550
180	8	18.1	1551
160	9	20.2	1552
140	10	22.0	1553
120	11	23.9	1554
100	13	25.4	1555
60	14	26.3	1557
20	15	26.4	1559
5	16	26.3	1559

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

Niskin bottle 12 failed to fire and 15 was empty.

Recommendations for corrective action or improvement:

Repair bottle or mechanism.

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

This was a highly successful dive and a majority of the objectives were achieved.

List specimens or samples collected on the mission.

3 *S. hawaiicus* and associated fauna
Water samples as described in Table 1.
Sediment cores as described in Figure 2.

Dive **P5-485**

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

Ecological Role and Faunal Associates of Abundant Hexactinellid Sponges on the Hawaiian Slope (project title)

held on November 30 2001 in the following way:

a. CTD data by November 2003 (date)

b. voice transcripts, video, and still camera film by November 2003 (date)

c. other November 2003 (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).

[signature] Principal Investigator