HAWAI'I UNDERSEA RESEARCH LABORATORY

QUICK LOOK REPORT
DIVE: PV-572

MISSION STATUS

Location: Port Allen, Kauai

Latitude: 21º 52.5' N **Longitude:** 159º 35.0' W

Mission Date: September 14 2004 **Duration:** **3** hours mins

Maximum Depth: 127 m

Project Title: Ecological impact of an invasive marine invertebrate in Hawaii's coral reef communities

Principal Investigator: Richard W. Grigg, University of Hawaii

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Observer 1: Sam Kahng **Observer 2:** Chip Young, UH
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Pilot 1: Max Cremer **Pilot 2:**

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

Objectives:

An investigation of the deep reef habitat was conducted in select locations in the Hawaiian Archipelago to determine the geographic spread and ecological intensity of the *Carijoa riisei* biological invasion on the deep reef. This dive was one of dives on the Pisces V submersible and 4 remotely operated vehicle deployments of the RCV-125 conducted September 8-15.

Observations, findings, etc:

The Pisces V submersible track was offshore from Port Allen, Kauai. Heavy east to west currents prevented an investigation of the primary target site, an underwater ridge of exposed rock.

A steep drop-off at 105-120 m surrounds the island. Interior sloping sand flats abruptly leads to a largely exposed carbonate ledge which forms the top of a near vertical wall of barren rock. Clouds of small fish as well as conspicuously large pelagic fish were encountered at the ledge. Holes along the ledge and in the vertical wall were inhabited by moray eels and a variety of fish. The water temperature at 120 m was 20ºC suggesting a shallow thermocline.

Along the ledge at 110 m, large house sized exposed boulders were largely absent of black corals. Only a couple dead black coral stump and one large feather black coral (Antipathies ulex?) covered in crinoids was observed. Mats of hydroids were common on the top of rocks and boulders. Thin spiral wire corals were also common. An occasional green wire coral was observed.

Extensive sand flats 60-100 m were devoid of hard substrata and littered with occasional anthropogenic debris (e.g., tires, poles, rope, etc.). At 80 m a large boulder was observed covered in solitary cup corals (Balanophyllia) and plate corals. A sharp temperature gradient was observed at 80-85 m where the temperature rose 3ºC to 25.5ºC in 10 m..

At 35-45 m a coral ridge was observed with wire corals and black corals along the top and on the current facing (east) side. Several healthy black corals colonies of a variety of sizes were observed with a bushy morphology and free of epifauna. The largest colony was approximately 1 m in height. Common scleractinian were abundant on the ridge.

No sign of Carijoa riisei was observed. There appears to be limited favorable habitat available for C. riisei in the deep water area outside of Port Allen.

Species list:

Carijoa riisei
Antipathes sp.
Antipathes ulex
Porites lobata
Pocillopora meandrina
Montipora capitata
Balanophyllia sp.
Wire coral

MISSION EVALUATION:

Limitations, failures, or operational problems noted:

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.

Mission accomplished. The crew did a fine job in helping us meet our scientific objectives.

List specimens or samples collected on the mission.
Carijoa riisei, black corals, plate corals, macro algae

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_____(date) in the following way:

a. CTD data by_____(date)

b. video and images by_____(date)

c. other_____(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