

**HAWAI'I UNDERSEA RESEARCH LABORATORY**

**QUICK LOOK REPORT  
P5-797**

**MISSION STATUS**

**Location:** S-19 site off Barbers Point Oahu

**Latitude:** 21° 14.406 N

**Longitude:** 158° 01.054 W

**Mission Date:** December 15, 2012

**Duration:** 7 hours

**Maximum Depth:** 412 m

**Project Title:** Coral environmental studies

**Principal Investigator:** Frank Parrish, NOAA Fisheries

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**Observer 1:** Frank Parrish

**Observer 2:** Chris Kelley

**Address:**

**Pilot 1:** Max Cremer

**Pilot 2:**

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

Objectives: The main objectives of this dive were to survey a potential new deepwater coral study site near Honolulu Harbor, and if found to be suitable, deploy thermographs, flow meters, and a current meter at various locations at the site. Once these tasks were completed, the submersible was to transit approximately 1.2 kilometers to the S-19 WWI submarine wreck site where selected coral specimens growing on the hull would be collected for a genetics study.

## Observations, findings, etc:

This was a two-sub dive with the *Pisces IV* shadowing and documenting the activities of the *Pisces V*. The first task of the dive was to transverse up slope to the summit (325 m) of a small carbonate pinnacle feature that was approximately 150 m in length and 100 m across. A patch of gold coral (*Savalia sp.*) was found at the summit and included a bamboo coral (*Acanella dispar*) that was in early stages of colonization by a gold coral. Marker pot 40 and an Aanderaa Seaguard current meter were left by the colony in transition. Flow meters were also deployed at the edge of the patch of corals and on similar habitat where no corals occurred. Thermographs were attached to all of these instruments to record temperature. Before leaving the summit, pieces of three gold coral colonies were collected for tissue analysis. In addition, one antipatharian (*Leiopathes sp.*) was collected for reproductive histology, while a second antipatharian and two demosponge specimens were collected for taxonomic investigation. None of these latter specimens had been collected or documented on previous dives and represent either new records or new species for Hawaii.

Following the collections, we traveled to the east toward the S-19, which was scuttled in 1938. About a 1/3 of the way there we encountered another pinnacle feature with many gold coral colonies. A quick 360° look of the patch showed no obvious corals in transition but this was a brief scan while the sub was hovering in the water column. We completed the traverse over the open sand to get to the S-19 where we parked on the stern section while the *Pisces IV* collected specimens of corals for genetic analysis. A survey of the corals growing on the wreck found a large number of primnoids, most of which were *Thouarella hilgendorfi*, along with several colonies of *Corallium regale*, a large scleractinian colony, a small colony of bamboo (Isididae), and several plexaurids. No gold corals were observed on the hull of 74 year old wreck.

## Species list (from memory):

Fishes: *Decapterus tabl*, *Chironema chryseres*, epigonid, *Setarches guentheri*, *Chlorophthalmus proridens*, *Laemonema rhodochir*, *Polymixia berndti*, *Chaunax umbrinus*, *Antigonia sp.*, *Hollardia goslinei*, *Meadia abyssalis*, *Satyrichthys hians*, *Ijimaia plicatellus*, *Squalus mitsukurii*, *Etelis coruscans*, *Etelis carbunculus*, *Symphysanodon maunaloa*, *Grammatonotus laysani*, *Pontinus macrocephalus*

Cnidarians: *Leiopathes sp*, *Savalia sp*, *Acanella dispar*, *Lepidisis olapa*, *Bathypathes conferta*, *Bathypathes branched*, *Thouarella hilgendorfi*, *Paracalytrophora sp*, *Callogorgia gilberti*, scleractinian bramble, plexaurids, *Corallium regale*, *Enallosammia fistula*, unid. Zoanthid growing on primnoids,

Echinoderms: *Astroceramus sp*, charitometrid or thallasometrid, *Stereocidaris hawaiiensis*

Other Invertebrates: *Plesionika pacifica*, *Heterocarpus ensifer*, *Paromala japonica*, *Heteralepas sp new*, unid squid, *Geodia sp*, unidentified demosponge, *Regadrella sp1*,

## **MISSION EVALUATION:**

### **Limitations, failures, or operational problems noted:**

None except a new sampling box needs to be designed and constructed to allow continued sampling in currents without losing specimens out of the box. The Pisce V was unable to collect specimens from the S-19 due to fear of losing the specimens collected on the pinnacle.

### **Recommendations for corrective action or improvement:**

Devise a better collection box for the submersibles.

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

Yes, in all aspects.

### **List specimens or samples collected on the mission.**

- 1) Three small clippings (< 3 inches) of gold coral (*Savalia sp*) branch tips were collected to conduct analysis of the organic fraction of the coral.
- 2) One clipping from a *Leiopathes sp* for reproductive histology.
- 3) One entire colony of a "branched *Bathypathes sp*)
- 4) Two demosponges, one of which has already been identified as a *Geodia sp*
- 5) Branches from eight colonies of *Thouarella hilgendorfi* collected for genetic analysis.
- 6) Branch from a *Paracalytrophora sp*.
- 7) Branch from a *Callogorgia gilberti*
- 8) Branch from either a *Callogorgia gilberti* or a *Fanellia sp*.
- 9) Small crab found in collection box

**10) 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\_\_(12/15/12) in the following way:

- a. CTD data by\_\_(12/15/14)
- b. video and images by\_\_(12/15/14)
- c. other\_\_(12/15/14)
- 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