HAWAI'I UNDERSEA RESEARCH LABORATORY
QUICK LOOK REPORT
DIVE: P5-648

MISSION STATUS

Location: Taema Bank, Tutuila, American Samoa

On Bottom: **Latitude:** 14°19.912'S **Longitude:** 170°40.453'W

Mission Date: July 9, 2005 **Duration:** 6 hours 21 mins (bottom time)

Maximum Depth (m): 213 m

Project Title: Benthic Habitats of American Samoa

Principal Investigator: Dawn Wright

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Observer 1 (port): Dawn Wright	**Observer 2 (stbd):** Doug Fenner
Address: OSU Geosciences, Corvallis, OR 97331-5506	**Address:** Dept. of Marine & Wildlife Resources (DMWR), P.O. Box 3730, Pago Pago, AS 96799

Pilot 1: Max Cremer

Scientific Data Acquired:

Objectives:

(1) Video and photographic survey up west wall of Taema Bank noting depth at which main corals extend to (base of main reef on bank) then proceed to a deeper, safer contour of interest for sub/ships operations, following it to the east, making observations of biota and physical structure
(2) Species identification of as many corals and fish as possible
(3) Ground-truthing of previous benthic terrain classifications made with prior high-resolution bathymetric data collected by OSU and Univ. of South Florida

Observations, findings, etc:

Landed at 109.3 m depth on slope of Taema Bank in calcareous (halimeda algae sand). Proceeded up slope to 60 m contour, making observations along the way, in search of southern edge of main corals of Taema. Not finding this at 60 m, we proceeded further up slope to 36 m, finding the reef edge there. Stopped for brief video and photo session and

then were advised by the ship that our depth was too shallow for ship operations and communications. We were also feeling significant wave surge. Proceeded down slope to SE, making observations along the way and stopping at 57 m to sample a large sea star, that may be a new record for American Samoa, certainly never seen before on shallow reefs. At ~106 m encountered a steep drop-off, the top edge of a large carbonate wall, proceeding to a maximum depth of 213 m. Not seeing where this bottomed out, we decided to move up to the 110 m contour where we had seen significant assemblages of gorgonians (sea fan corals) and fish. We followed the 110 m contour to the east, buoyed along by a nice current from the west, and observed/identified several sea fans, species of fish congregated at rubble piles (that may have been created by the fish as habitat), a black-blotched stingray (possibly a new record for American Samoa), sea cucumbers. We noticed a transition from west to east of sea fans being accompanied more to the east by crinoids attached to their tops, and with 3-armed, feathery brittle stars. There were also alternating "provinces" of barren, sloping halimeda sand plains, to slopes cut by deep crevices in sloped calcareous conglomerate blocks to sea fans assemblages. Our final main observation was of a huge pink sea fan, 5-6 ft. in width and in height (size of a tree) with knobs on its stems.

Fish Species List (by Leslie Whaylen and Doug Fenner, DMWR):
(highlighted ones are new records for American Samoa according to Wass list)
Anthias sp.
Black trevally – *Caranx lugubris*
Black-blotched stingray – *Taeniura meyeni*
Cardinalfish – *Ostorhinchus* sp. (new species – to be described soon)
Common lionfish – *Pterois volitans*
Gilded triggerfish – *Xanthichthys auromarginatus*
Greeneye *Chlorophthalmus priridens*
?Orange sea toad, *Chaunax fimbriatus*
Narrowstripe cardinalfish – *Pristiapogon exostigma*
Remora sp. –
Sand tilefish: larger, cream black tail and pectorals
Sand tilefish: smaller, black tail connected to single black stripe
Spotted lantern belly, *Synagrops argyrea* (?)
Stocky tilefish – *Hoplolatilus fronticinctus*
Tinker's butterflyfish – *Chaetodon tinkeri*
Whitetip reef shark – *Triaenodon obesus*

Edge of main corals on bank at ~36m
Blacktail snapper – *Lutjanus fulvus*
Bluestriped snapper – *Lutjanus kasmira*
Pale-tail chromis – *Chromis xanthura*
Pyramid butterflyfish – *Hemitaurichthys polylepis*
Redbreasted wrasse – *Cheilinus fasciatus*
Redfin (Oval) butterflyfish – *Chaetodon lunulatus*
Sidespot goatfish – *Parupeneus pleurostigma*
Threadfin butterflyfish – *Chaetodon auriga*

Whitetail (Thompson's) surgeonfish – *Acanthurus thompsoni*

Invertebrates List for Both P5-648 and -650 (by Doug Fenner, DMWR):

ID sources: (figure numbers refer to the first reference)

Chave, E. H. and A. Malahoff. 1998. In *Deeper Waters, Photographic Studies of Hawaiian Deep-sea Habitats and Life-forms*. Univ Hawaii Press.

Gosliner, TM, Behrens, DW, and Williams, GC. 1996. *Coral Reef Animals of the Indo-Pacific*. Sea Challengers, Monterey. 314 pp.

Fabricius, K. and Alderslade, P. 2001. *Soft Corals and Sea Fans*. Australian Institute of Marine Science, Townsville. 263 pp.

Colin, P. L. and C. Arneson. 1995. *Tropical Pacific Invertebrates*. Coral Reef Press.

1. Coralline algae: disc
2. Sponge: small white plate: *Corallistes* Fig 55
3. Anemone
4. Anemone on hermit crab shell: *Stylobates aenus* Fig 141
5. Seafan: orange, net-like web (most common): *Annella reticulata*
6. Seafan: orange, branchlets not fused: *Annella*(?)
7. Seafan: large light purple, nodular stem: *Melithaea*
8. Gorgonian: *Iciligorgia*, thick branches
9. Soft coral: thin branch, white, on seafans
10. Soft coral: short thick tree: possibly *Dendronephthya*
11. Whip coral: *Cirrhipathes* (tentacles on all sides)
12. Comb jelly: Ctenophore: creeping, *Lyrocteis* Fig 80
13. Shrimp: red
14. Crab: galatheid: *Cyrtomaia smithi* Figure 100
15. Crab: large
16. Hermit crab: *Parapagurus dofleini* Fig 141
17. Tusk shells: Scaphopod, dead shells
18. Seastar: Doughbouy: *Choriaster granulatus* (also shallow)
19. Seastar: Lounge Cushion Star
20. Seastar: *Calliderma spectabilis* (?) Fig 101

21. Seastar: *Pentaceraster cumingi* (?)
22. Seastar: thin armed white, *Coronaster eclipes* Fig 10
23. Seastar: looks like crinoid, Brisingid, Fig 110
24. Sea Cucumber: *Holothuria edulus* (also shallow- smooth black)
25. Sea Cucumber: *Thelonota anax* (also shallow- flat lower surface)
26. Sea Cucumber: orange gelatinous
27. Urchin: big pentagonal
28. Urchin: shortspine Cidarid: *Actinocidaris thomasii* (short spine) Fig 114
29. Urchin: longspine Cidarid
30. Heart urchin: Spatangoid: "skunk urchin" *Eurypatagus ovalis* Fig 116
31. Crinoid: black
32. Crinoid: yellow with black stripe

MISSION EVALUATION:

A. Limitations, failures, or operational problems noted:

No video overlay was available on monitors or on resulting dive tape. Connection for this was apparently disabled by mistake when WHOI DSPL DigiSeaCam was installed on sub.

B. Recommendations for corrective action or improvement:

C. In your opinion, did the mission essentially achieve its purpose?

Yes, by all means.

D. Compare actual work accomplished with the work that was expected to be accomplished.

We did not expect to be able to traverse the entire length of Taema Bank within the time limit of our dive but were extremely pleased to be able to do so, and to identify so many species that are new records for American Samoa.

E. List specimens or samples collected on the mission.

Sample Number	Time (L)	Latitude	Longitude	Depth (m)	Comments
None	1102	~14°19.520 S	~170°40.174 W	57	Sample was photographed on board and then returned to the ocean

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 the mission

Benthic Habitats of American Samoa (project title)

held on 9-11 July 2005 (date) in the following way:

a. CTD data by any (date)

b. voice transcripts, video, and still camera film by 11 July, 2007 (date)

c. other N/A (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).

Dawn J. Wright Principal Investigator