entry 8

DGL '720602-1

2 June 1972 10:30 - 11:30

Gulf of California, Consag Rock; No. side of largest rock.

water T° = 69-75°F

salinity = ± 35 ‰

vegetation = Padina, Sargassum, Laurencia

collected by SCUBA (poison = "chemfish")

entry 9 RCB7X72

October 7, 1972

Mexico, Sonora, Puerto Penasco. Collected from small otter trawl at ± 50 ft., off "Adventyr"; on mud bottom.

Two vials – one with 3 isopods found loose in trawl; other with an isopod taken from the throat of [redacted] Orthopristis reddingi. Trawl was down about 20 minutes & included Scorpaena sp., flounder, Grunts, Jeweler fish, and others. Also one sea horse was collected from the trawl. Sea horse & Orthopristis reddingi deposited in fish museum at Univ. of Arizona (RCB7X72). UA. fish collection # UA72-40

This was my 1st trip aboard the "Adventyr". Initial impression is it would be a nice boat for 2-6 people to trip around the Gulf in but we had about 15 people on this trip & it was definetly too crowded. The boat ran well – has a fair cabin facility and could be ideal for near shore research if properly utilized. JRH was really uptight this weekend. Ramon as usual. Agustin has had 3 extensions & a phone line put in.

~ I.D. of Orthopristis reddingi Jordan & Richardson (Grunt) by L.T. Findley: standard length = 128 mm.

UA72-40

ENTRY 10 (Peñasco sample #1 - SUMMER)

June 14, 1972 Mexico, Sonora, Puerto Peñasco
~ Cholla Bay ~

Air Temp. 33°C, Water Temp. 28°C (pools ± 32°C),
Salinity of near shore sea water 37‰

A leisurely walk with Dr. Hedgpeth & the marine class.
Usual animals observed: Cerithidia mazatlanica
Upogebia sp.
Octopus sp. (in pecten shell)
Uca crenulata
Uca monilifera
Clibanarius digueti
Paguras albus
Petrochirus californiensis
tusk shells (½-2")
Callinectes bellicosus
Encope grandis
Encope micropora
Mellita longifissa

JWH doesn't talk much on these field trips. He seems to like walking alone or with just a person or two. He can recognize most these animals to genus even though he isn't familiar with the Gulf fauna at all (which is probably why he doesn't say much - leaving it all up to David & I).

ENTRY 11 (Peñasco sample #2 - summer)

June 15, 1972 Mexico, Sonora, Puerto Peñasco
~ boulder beach up from Casa Garcia ~

Air Temp. 33°C, water Temp. 28°C (pools ± 33°C), salinity 35 ‰ (pools 40 ‰).

Algae on basalt boulders: Pelvetia, Padina, Sargassum, corrallines (all in low littoral zones)

Fishs: Tomicodon (zebra?)
P. funebris
Gobiosoma chiquita

Inverts: Tetraclita squamosa
Chthamalus sp.
Nerita sp.
Ligia occidentalis
Petrolisthes armatus
Clibanarius digueti
Chromodoris sedna
" banksi
Ophiocoma alexandri
Ophioderma panamense
Leucosolenia sp. (w/ commensal sphaeromatid isopods)

It seems like everytime I look into Leucosolenia I find these attractive little isopods. I really should take the time to make a quantitative survey of these things. Probably over 70% of the intertidal clumps of Leucosolenia have these commensals & probably there is a ♂ and a ♀ in each chamber occupied.

JWH is a riot - Safeway Gin & tonics!! I think he's lonesome down here, but he's a hard person to get to know. He digs his "ivory tower" image and plays it to the hilt. I'm sure it would take many years of acquaintanship before he would appreciate anyone calling him Joel!!

Entry 12 (Penasco sample #3 - summer)

June 16, 1972 — Mexico, Sonora, Puerto Peñasco, estero Morua (approx. 5 mi. S.E. Peñasco).

Field trip to upper reaches of estero at low tide. Water temp. 38°C — Salinity 42‰ Nice day, Hedgpeth in a good mood. I asked him after this trip if I was doing too much talking with the students during the field trips (about

animals), as I thought possibly I was monopolizing the trips & this might be the reason he spoke so little during field trips. But - he said no, I wasn't talking too much.

We made observations on the gigantic fiddler beds here. These ~~these~~ beds are truely magnificent. I've never seen beds this thick anywhere (except perhaps at Boca del Rio). There are places where Uca crenulata exists alone; places where Uca princeps occurs alone; and places where they overlap. There is probably also Uca macrodactylus. Marsh grass borders the edge & covers the higher areas of the estuary. U. crenulata only occurs here. In the channels & lower salacornia flats both Uca occur. Eurytium is here also & we observed them sitting just inside their burrows or w/ the face & chelae out the hole. Once a U. crenulata walked by a Eurytium thus placed and was quickly grabebby Eurytium and chewed.

We found fiddlers (Uca crenulata) in all color phases — from pure white to red & white to solid brick red. I suppose the degree

of redness is indicative of the stage or level of sexual/mating behavior. The pure red crabs in a high stage or final stage of courtship with a ♀.

We also saw many Callianassa & Upogebia holes & dug both up.

Entry 13 (Peñasco sample #4 - summer)

June 16, 1972 — Mexico, Sonora, Puerto Peñasco (station beach)

A cirolanid isopod (cirolana? Excirolana?) was collected from my body in about 4 feet of water, over sand, at high tide. The little buggers really bite and are very difficult to see on your body because they are so small are are white (nearly invisable in the water).

Entry 14 (Peñasco sample #5 - summer)

June 17, 1972 — Mexico, Sonora, Puerto Peñasco

I tried to capture some more of those cirolanids again today. I found 10–15 [redacted] of them

devouring a dead fish washed ashore. Color of the exoskeleton varied from pure white to brown, brownish-red, and even brilliant cinnamon red.

These isopods probably live interstitially (between the sand grains) on the beach and climb up out of the sand to feed on dead animals (never found them yet on algae). Also they appear to come out and swim about in the water at high tide, perhaps seeking out fish to temporarily parasatize.

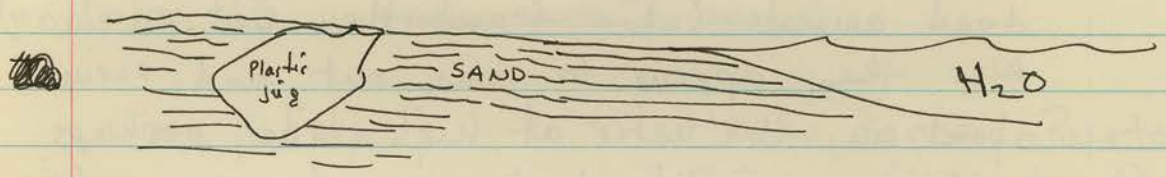
They appear to be strongly photonegative as the ones on the dead fish stayed either deep w/in the fish or on the under surface. When I turned the fish over the exposed ones quickly ran to the bottom side again. I could turn the fish over and over rapidly and they would continue to always run back down under.

A collection was made of 8 or 10 on the fish.

ENTRY 15 (Peñasco sample #6 - summer)

JUNE 18, 1972 — MEXICO, SONORA, PUERTO PEÑASCO (NORTH BEACH)

Spent the whole day at "Sandy Beach" and "Pelican Point" putting out 1 gallon plastic containers, baited w/ freshly caught fish, to capture Ligia.



Sandy Beach trap

Both were left about 4 hours; one in the sand and on laid on rocks at Pelican Pt. Both were about 10 feet from the water at a + 5 ft. tide level (1100 - 1500 hours). The jug in the sand captured nothing — the jug on the rocks captured 1 Ligia

ENTRY 16 (Peñasco sample #7 - Summer)

JUNE 28, 1972

MEXICO, SONORA, Puerto Peñasco (station beach)

Found a Epialtoides paradigmus clinging to a clump of Sargassum attached to a limestone (?) rock. I'm becoming convinced that the only way to capture these little spider crabs (E. paradigmus, Epialtus minimus, Podochela, etc.) is to sit quietly and patiently at a tidepools edge, watching the Sargassum. They are invariably the same color as the weed and with their odd-shaped bodies are really difficult to notice. Probably they are a lot more common than I have been thinking! I bet formalin washes would get a lot of them off Sargassum.
Hedgpeth loosening up.

Entry 17 (Peñasco sample #8 – summer)

July 8, 1972 — Mexico, Sonora, Puerto Peñasco.

Went out with the class & Jeff aboard the "Marcelo, Jr." — a Peñasco shrimp boat. Trawled in about 70-90 ft. H_2O, between Pelican Point and Estero Morua. Most of the class dug it. Jeff read Hesse most of the time, then slept on the deck.

The trawls were loaded with grunts. D. G. Lindquist identified them as Orthopristis reddingi. Approx. 10-15% were parasitized by Isopods in the throat. They appear to attach near or at the base of the tongue, rather deep in the throat. ones found nearer the mouth itself are always rather poorly attached so it may be that the animals normally live in the throat and ones found in the mouth cavity are in the process of crawling out of the mouth. They may be doing this to get out & feed outside or they may be deserting a fish in trouble or dying. I suspect the latter. They seem to always attach head end outward. (David probably catalogued these fish as DGL 72708 but I'm not sure)

Entry 18 (Peñasco sample #9 - summer)

July 10, 1972 — Mexico, Sonora, Puerto Peñasco (station beach)

Tried some formalin washings (± 5%) of rocks covered with Sargassum and clumps of Sargassum pulled up from the sand bottom ~ low intertidal zone, ± -1 ft.

Collected ~~Isopods~~ and shrimp. The isopod is the same color as the Sargassum and looks like a Mesanthura. The shrimp are obviously mimic/cryptic animals; they are the same color as the Sargassum and are very much like a Sargassum leaf in shape. When placed in EtOH the shrimp immediately turned red-orange, even though they had been preserved in 10% formalin for several hours. Also, one Epialtus minimus was collected.

All-in-all one isopod, one spider crab, and 3 or 4 shrimps are a pretty poor collection for about 10 rocks and 5 handfuls of Sargassum. This helps strengthen my feelings that littoral isopods are [redacted] scarce in the Gulf (except perhaps the interstitial cirolanid and the commensal ~~phaeonatids~~).

ENTRY 19 (Peñasco sample #10 - summer)

July 9, 1972 Mexico, Sonora, Puerto Peñasco

went down to the docks at high tide (+16 ft.). the water [redacted] was all the way up to the base of the wall and Ligia was crowded in great hoardes, great black splotches of crawling, creeping isopods. the patches were 3-4 isopods thick and several feet across. they looked like great flowing black amoeba! I grabbed handfals of them and filled two large plastic bags.

this is the last entry for Peñasco during the summer coarse with Hedgpeth (Bio 242). It's been a good summer, even though the students weren't into anything much. d.W.H's lectures were wasted on all of 'em but Roger Phillips, Hal Grager, Bob Bowbski, and perhaps Steve Taplin. Of course I really dug the lectures but unless you were really into Pacific Coast seashore and Marine Biology you wouldn't get much out of them. His lecture on Ricketts/Steinbeck was just too far out to describe. He's "Joel" now.

Entry 20 (cal Academy specimens)

Nerocila sp.

3 individuals sent by Ernie Iverson. The largest of the 3 heavily parasatized itself by barnacles. [redacted] Collected from body surface of sailfish (Istiophorus platypterus (Shaw and Nodder, 1791), by Paul Wares, Mazatlán, Sinaloa, Mexico (1969).

Entry 21

Single specimen taken from under right opercle of Halfbeak, Hyporhamphus unifasciatus (Ranzani) by B. W. Walker, 31, January, 1952. Location: 1-2½ mi. E. Punta de las Cuevas, Ensenada San Francisco, [Bahia San Carlos], Guaymas, Sonora, Mexico. - operculum full!

Fish coll. # 80

Findley pulled this one out for me. The gills were strongly depressed and smashed into the depression shape of the Isopod, but there was no evidence of [redacted] damage to the gill. The thing obviously wasn't feeding on the tissues of the gills.

Entry #23

This isopod was given to me by Lloyd Findley from a large jar of Grunion [Leuresthes sardina (Jenkins and Everman, 1883)] collected by hand at El Golfo de Santa Clara by Kevin Muench on sept. 4, 1970. The isopod was free in the jar so it probably was attached to the body surface somewhere. There is a very remote chance the isopod did not come from these grunion and a check must be made with Kevin before certain association can be made.

UNIVERSITY OF ARIZONA — FIELD DATA

FIELD NO. RCB13X173MEX-2 NAME Rick BRUSCA

DATE OCT. 13 1973 TIME MORNING

COUNTRY MEXICO STATE OR PROV. SONORA

COUNTY AND/OR LOCALITY Deer Island, at Algodones Beach (mouth of small Mangrove Estero), ca. 20 mi. N. Guaymas, Sonora, Mexico.

LAT. LONG. MAP

LAT. LONG. WIRE OUT

TIME AT DEPTH WIRE ANGLE WIND: D.&V.

AIR TEMP. 80° F WATER TEMP. ca. 70° F SAL.

WEATHER clear; sunny; no wind DRAINAGE

VEGETATION

COVER

BOTTOM sand with large rocks

SHORE sandy beach and entrance to small mangrove est. estero.

CURRENT water turbulent TIDE low-slack SURF little

DIST. OFFSHORE 1 ft. to 500 ft. STREAM WIDTH

WATER DEPTH 1-10 ft. CAPTURE DEPTH TURBIDITY visability ca. 20 ft.

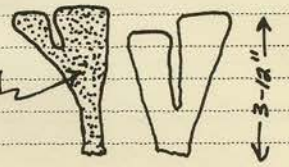
COLLECTED BY snorkeling with hand net

CAPTURE METHOD

SHIP OR BOAT ORIG. PRES.

OBSERVATIONS ONLY:

1) Porites, probably californica with unusual growth form. Tall, pedunculate towers, flat-topped.



2) Tridachiella sp. (abundant)
3) Pharia pyramidata
4) Phataria unifascialis
5) Heliaster kubiniji
6) Tegula sp. (abundant)
7) Geodia (mesotriaena ?) - abundant as large, massive encrustations on boulders; several feet across.
8) Phascolosoma perlucens
9) Ophiocoma aethiops
10) Eucidaris thouarsii
11) Synaptid cucumbers
12) Isostichopus fuscus
13) Brandtothuria impatiens

UNIVERSITY OF ARIZONA — FIELD DATA

FIELD NO. RcB [redacted] 13X73MEX-1 NAME R.C. BRUSCA

DATE OCT. 13 1973 TIME afternoon

COUNTRY MEXICO STATE OR PROV. SONORA

COUNTY AND/OR LOCALITY boat docks at Bahía San Carlos, ca. 20 mi. North of Guaymas, Sonora, MEX. "Golfo de California"

LAT. LONG. MAP

LAT. LONG. WIRE OUT

TIME AT DEPTH WIRE ANGLE WIND: D.&V.

AIR TEMP. 80-85°F WATER TEMP. ca. 70° F SAL. -

WEATHER warm, clear, dry DRAINAGE

VEGETATION COVER

BOTTOM muddy - somewhat foul (H_2S). Many boats use this relatively small, enclosed anchorage.

SHORE rocky in mud substrate ELEV.

CURRENT little TIDE slack - low SURF none

DIST. OFFSHORE STREAM WIDTH

~~capture~~ WATER DEPTH 1" to 20" ~~water~~ CAPTURE DEPTH 10' TURBIDITY clear

COLLECTED BY hand collected by R.C. BRUSCA

CAPTURE METHOD

SHIP OR BOAT ORIG. PRES. EtOH

Observation & collections made from boat docks (growths on old tires, canvas sheets, etc.)

(1) solitary ascidean (sent to Don Abbott)
(2) large masses of sabellids in chitinous, mud-covered tubes (Branchiomma sp.)
(3) clingfish (Gobisocidae)
(4) Isopods: Paracerceis sp.
Anthurids
Cirolanids(?)
(5) compound ascidean (Aplidium ?) black w/ yellow zooids
(6) Red encrusting sponge (slimey) - probably Ophlitaspongia sp.