

MEXICO, Sonora, Puerto Peñasco ("Rocky Point"),
14 Sept. 1974 — morning (tide -3') and evening (tide -2')
tidepool observations with Biol. 242
class (J.R. HENDRICKSON, PROF.) —

I. MORNING: Station Beach Reef (\pm 1/4 mi. E. of Punta
Peñasco).

SPONGES

Tedania (abundant)

Haliclona (abundant; purple when exposed
to sun but pale yellow-brown when
not, as when completely under
avack).

Terpios (a few small patches)

Geodia (abundant)

Leucetta
Leucosolenia } occasional small patches

Coelenterates:

Muricea californica — washed up on beach.

Phyllactis sp. — abundant; especially in
lower intertidal regions.

Palythoa ignota — abundant

Zoanthus danae — very abundant

Aiptasia californica — very abundant,
especially in lower intertidal
regions.

Bunodosoma californica

Bunodactis mexicana

Astrangia ? — resembles Californian
Balanophyllia but w/o color (dull
green-brown cups).

WORMS:

Pseudoceros bajae

small reddish-orange polyclad (ca. 1/2" long)

Baseodiscus punnetti (ribbon worm)

14 SEPT. 1974 (cont.)

Eurythoe complanata

serpulids
etc etc

Phyllodoce sp.

Thelepus setosus

MOLLUSCS:

Modiolus sp.

Pinna rugosa

Lithophaga sp. (didn't appear to be as
numerous as in past few years)

Diodora inaequalis

collisella spp.

Tegula rugosa

Turbo fluctuosus

Nerita funiculata (uncommon; highest boulders)

Serpulorbis margaritaceus

~~sp~~ Serpulorbis sp. (white tubes)

Cerithium spp.

Thais biserialis

Neorapana sp.

Acanthina angelica

Columbella spp. (esp. C. fuscata)

Anachis spp. (esp. varia)

Olivella dama (on sandy patches)

Navanax inermis

Aplysia californica

Stylochelus sp.

Berthellina ilisima

} all very small
($< 1''$)

Tridachiella diomedea

Tayuva ketos

Chromodoris sedna

Chromodoris banksi

14 Sept. 1974 (cont.)

Onchidella binneyi

Chiton virgulatus

Stenoplax conspicua

Octopus (resembles bimaculatus of California!)

BARNACLES:

Tetradita squamosa (in small patches only; high up on large boulders)

Balanus tintinnabulum - uncommon; small and occurring in groups of 1-5 individuals only.

acorn barnacles - genus??; abundant

ISOPODS:

Tylos punctatus - abundant at night out foraging in sargassum washed ashore. Early morning transect (before dawn) revealed a few at $\pm 3-5''$. Majority probably live much deeper in this coarse, shell/sand.

Excirolana sp.

SHRIMPS:

Palaeomon ritteri - abundant

Alpheus spp. - large individuals (± 5 ^{cm.} from rostrum to telson) abundant.

Synalpheus (lockingtoni?) - abundant; small (± 2 cm.)

Axius vivesi - one hole seen at - 2', under boulder; all the holes that used to be on the reef are no longer to be found!!

CRABS:

Petrolisthes hirtipes

Pachycheles setimanus

Petrolisthes spp.

Clibanarius digueti

Epialtoides paradigmus (2 large individuals found)

14 SEPT. 1974 (cont.)

Eriphia squamata - abundant

Ala cornuta - scarce; one individual found
was \pm 5 cm. across carapace.

Speleophorus ? - small (\pm 6 mm. across carapace)

Pilumnus limosus

Pilumnus ~~gonzalez~~
townsendi

} uncommon

Leptodius occidentalis - uncommon

Tetragrapsus jouyi - a few under boulders high
up in the intertidal.

SIPUNCULIDS:

Themiste lissum - not nearly as many as past
years.

BRYOZOANS:

Membranipora (tenuis?) - common; purple
or black with paler purple
margins.

Lichenopora sp.

ECHINODERMS:

Heliaster kubiniji - not many seen compared
to previous years.

Ophilia tenuispina - abundant

Echinaster tenuispina - 1 only found

Ophioderma panamense - all very small, < 4 cm.
arm span.

Ophiothrix spiculata

Ophionereis annulata

} all small

Ophiocoma aethiops - very few; large

Echinometra vanbrunti - a lot of these guys
are down here but they are very
secretive and one must look carefully
in the cracks & holes on the reef.

14 Sept. 1974 (cont.)

Brandtothuria arenicola } abundant
Seleukothuria lubrica }

TUNICATES:

Aplidium spp. - abundant

Ascidia interrupta - 1 only seen.

The fauna is considerably depauperate in comparison to what used to be here. This may be due to any 1, or combination of 3 factors:

- ① A lot of sand has washed down from the beach to inundate large areas of the reef.
- ② Tourist pressure is really getting heavy all along this beach.
- ③ It is the end of the hottest few months of the year & a lot of stuff may be in the subtidal or have died off.

The fact that so many juveniles were found of many many types may indicate the summer die-off has just ended and the few remaining species are starting to reproduce again.

(Sept. 15)

3 student transects were run (about 50 M S-E (down the beach) from the Garcia House.

Attending were the following persons:

Jeff Ard
Wynne Brawn
Steve Buscemi
Mark Caldwell
Wayne Crayton
James Cummings
Brad (Terry) Engle
John Foster
Margaret Leonard
Beete Meystre-Hulsen

Bob Rose
Craig Schrader
Buddy Winn
Dennis Haussuy

also at Penasco this weekend:

R.C. BRUSCA
J.R. HENDRICKSON
Nancy Moffet
Vick Jensen
Elaine Snyder

14 Sept. 1979 (cont.)

II. Evening TIDE

Norse Beach (Playa Arenosa) - limestone bench w/basalt boulders. Fauna much the same as Station Beach (at P. Peñasco) but with more Tetragepsus, much more Terpios, Ophiocoma alexandri, & Ophioderma teres. All the stuff here appeared to be large and mature. Perhaps tourist pressure at station Beach is a major factor on the stability of the environment there. Many small black mussels occurring from +4.5 to +8 ft.

(Brachiodontes semilaevis)

21 Sept. 1974

MEXICO, SONORA, Bahía San Francisco (Estero Soldado; ca. 10 mi. N. Guaymas).

The 1st large structure is about $\frac{1}{2}$ completed; looks like condominiums. Small fringes of estero appears fairly well disturbed; a lot of trash, tire tracks, etc. So far mangroves still maintaining. Spider island mangroves appear healthy and growing. $H_2O T^{\circ} = 29^{\circ}C$
Salinity = 35.5 ‰

SEMI-MARINE PLANTS & MARINE SHORE ASSOC. PLANTS

<u>Rhizophora mangle</u>	Red Mangrove
<u>Avicennia germinans</u>	Black Mangrove
<u>Laguncularia racemosa</u>	White Mangrove
?	(resembles white mangrove; tree-like; well above high water line)
<u>Allenrolfea</u>	Iodine Bush
<u>Batis</u>	Saltwort
<u>Salicornia</u>	Pickleweed
<u>Monanthochloa</u>	Saltgrass
<u>Suaeda</u>	sea blite
<u>Mesembryanthemum</u>	ice plant

ANIMALS (in the estero)

- Ostrea (palmula?)
- Callinectes bellicosus
- Anadara sp. (shell only)
- Lithophaga (burrowing in roots of Rhizophora)
- Cardita affinis (shells only)
- Protothaca grata
- Stione californiensis

21 Sept. 1974 (cont.)

Teredo (?) - burrowing into roots of Rhizophora.

Pholas (?) - " " " "

Cerithidea muzatlanica - abundant along shores
of small finger.

Balanus tintinnabulum - on mangroves & rocks.

Goniopsus pulchra

Pachygrapsus transversus

} climbing about in the
mangroves

Uca crenulata (♀ & ♂)

Uca princeps (♀ only)

Ocyropsis occidentalis

Bryozoan (Membranipora?) on roots of
Rhizophora

Ascidia sp.

same day - docks at Bahío San Carlos.

Zoobotryon sp. - massive clusters, several feet
thick.

Aplidium (?) - black encrusting form w/ whitish-
yellow zooids.

Spiraling colonial tunicate, orange

Ophlitaspongia ? - orange

Little Leptodius occidentalis living in the Zoobotryon
clumps.

Branchiomma sp. - feather dusters; some with
tubes made of living colonial ascidians,
others w/ tubes appearing to be of
a brown, benthic diatom that was
coating everything here.

22 Sept. 1974

Mexico, Sonora, Bahía Algodones (for map
see field notes of 13 Oct. 1973)

SCUBA dive, leeward side of Deer Island.
Extremely rich area, Porites "reef" still doing
well, (3'-15' depth).

Terpios zeteki and Pseudosuberites pseudos
abundant and massive.

Aglaophenia

Muricea californica

Polythoa ignota

Astrangia (?)

Pseudoceros spp.

Baseodiscus mexicanus

Baseodiscus sp.

many of the large rocks, in 5'-10' water, had thick,
large ($\frac{1}{2}$ "- $\frac{3}{4}$ " diameter; 8"-12" long) tubes attached to
their underside. The tube was inhabited always
by a beautiful, large Terebellidae. It had two
clusters of anterior tentacles, one orange,
the other yellow. Probably Thelepus setosus.
Some of those terebellid had living in their
tube with them large scale corals, as big
as the terebellid, and the two seemed to
lie side by side; barely enough room for the
2 in the tube. amazing sight.

Turbo fluctuosus

Astraea

Strombus gracilior

Cypraea amethystae

Conus spp.

22 Sept. 1974 (cont.)

Stenoplax conspicua

Octopus (large)

moray eels

lobster (Panulirus sp.? - the dark one)

Xanthodius hebes

Ochetostoma edax

Othelia tenuispina

Photaria unifascialis

Pharia pyramidata

Ophiocoma aethiops

Eucidaris thovarsii

Diadema mexicanum

Lovenia cordiformis (test only)

Braudothuria sp.

Pentameria chierchia

Neothyone gibbosa

Aplidium?

Ascidia?

28 SEPT. 1974

Mexico, Sonora, Puerto Penasco region.

Morning Tide (0630, -14.); Bahía Cholla

Students from Dr. Hendrickson's/B.C. Brusca's marine Ecology class made 4, 1M² quadrats on the tidal flats of Bahía Cholla.

quadrat #1: taken in ~~Salicornia~~^{Batis.}/~~Spartina~~^{Spartina} bed at head of Bay. Dominant animals:

Uca crenulata

Eurytium albidigitum

Tetragrapsus jouyi

others: Baseadiscus (?) - bright orange nemertine
(B. punnettii?)

large ~~small~~ pinnotherids (commensal in Uca burrows??)

cerithidia mazatlanica

quadrat #2: taken about 15M below Salicornia bed.

Callinassa sp. (large; to 5 cm. (head to tail))

Tagelus affinis

quadrats #3 & #4: Taken farther down

Travisia sp. (abundant) - polychaete
various Maldanadae (esp. Proclymene sp.)

Dosinia dunkeri (abundant; 6-12" down)

Tagelus affinis

Telling (hiberna?) - abundant; 6-12" down

Conus sp.

Nassarius moestus

Nassarius tiarula

28 SEPT. 1974 (cont.)

Melongena patula

Conus perplexus

Fustaria splendida (scaphopod)

Balanus tintinnabulum (abundant; on living and dead shells, esp. Cerithium, & rocks)

Cerithium stercus muscarum (abundant)

Aegid isopod

small glassy shrimp, looked like a Peridimenes (down 6-12" into mud)

Callinassa bellicosus (abundant)

→ the overall fauna of Cholla Bays appears, as did Station Beach reef 2 weeks ago, badly depopulated. 20 people looked for 20 min. for the Encope beds but could not find them (are they gone??). No large shells or animals were found, no Muricanthus, Hexaplex, Turritella, Oliva, Petrochirus, etc etc.

I strongly suspect, again, tourist pressure.

Evening Tide (~~at~~ 1900, -1ft.); off Black Mountain.

A leisurely walk across the tidal flats here proved vastly more interesting than Cholla did. Included were the following observations:

Uca crenulata

Uca princeps (or monilifera?)

Upogebia sp.

Apidium - large patches of the colonial black "sea pork" form as well as the stalked form (A. pellucidum?).

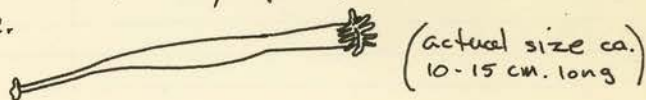
Pseudosaberites pseudos - several large balls rolling about.

28 SEPT. 1974 (cont.)

Tedania (?) - stiff, erect, branching red forus

Phyllactis bradleyi (common)

white "burrowing" anemone, but actually attached at the very thin, tapering base to a small stone.



Piopatira (common)


Corophium (common; in patches on the hard clay outcroppings)

Spondylus (on rocks, on clay outcroppings.)

Chione (abundant)

Natica chemnitzii - very abundant, all over

the tidal flat. Also, all over were many snail collars, of 1 whorl only →

but only one Polinices was found,  which leads me to suspect the single-whorl egg collars are the work of Natica, not Polinices as I had thought. Egg collars of Polinices uber from Cholla Bay have been seen to be of numerous whorls, at least 2-3 on top of each other.

Calyptrea mamillaris - common, attached to rocks and shells

Petrochirus californiensis

Callinectes bellicosus - ♀ w/eggs & others in copula.

Nassarius spp.

28 SEPT. 1974 (cont.)

mole crab - about 3"-8" down, quite far out on the flat; unusual shape & size; ca. 1 cm. long; preserved for I.D. This is the mole crab I've found in the Gulf (Lepidopa?)

Sipunculus nudus - uncommon; 3 found; small.

Ophiophragmus (?) or Amphiura (?) - two types of very long-armed, burrowing brittle-stars were collected & preserved.