

PHARMAMAR 1995

PARTICULAR PHONE:

NAMIBIA(9) EXPEDITION

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Bulent Kukurtzu

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Nov. 27, 1995

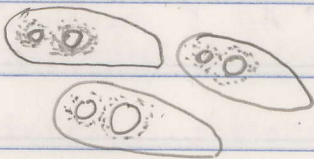
Namibia, off Luderitz, Halifax Is. (ocean side),  
27/11/95 - 1. 67 ft. 13°C. 1/2 m Visibility.

- 001 sponges: Clathriidae
- 002 sponge: Polymastia sp. (a common Med genus).
- 12 003 Actinia equina. The common brick-red anemone of the Med.
- 14 004 Anthopleura stephensoni. see photo on back cover of Branch, and on page 14.
- 005 ? Metridium sp. - small (~1cm) solid white anemone; (with acontia & short tentacles.
- 006 ? Bunodactis sp. Subtidal; no adhering sand or shell.
- 22 007 Eunicella papillosa. small gorgonians, to 6", yellow-orange.
- 114 008 Aulacomya ater. common subtidal mussel; black w/red underneath; w/longitudinal ribs.
- 158 009 Argobuccinum pustulosum. Aperture ribs usually protrude (not shown in Branch's Photo-74.4)
- 130 010 Chaetopleura papilio. Hairy chiton.
- 112 011 Kraussia rubra. Rubo to brown-colored lamp shell.
- 88 012 Clibanarius (sp. A) Legs w/blue bands; R. chela slightly larger.
- 198 013 Parechinus angulosus. Common subtidal urchin; to 1 1/2" diam, short spines. note: this is a tropical E. African species but it occurs here.
- 196 014 Amphiplus integer #92.4 in Branch
- 190 015 Henricia ornata
- 190 016 ? Henricia (juvenile)
- 190 017 Patiria granifera
- 108 018 Adeonellopsis meandrina. Foliose erect bryozoan; salmon; to 6".
- 019 ? Diplosoma sp. A (tunicate, encrusting, ~1cm thick, matrix clear to smoky; zooids separate & w/cinnamon apertures)

Nov. 28, 1995

Mauribia off Luderitz, Penguin Is. 7-9 m

15°C



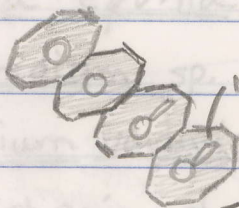
20/11/95 Zooids of Diplosoma sp. A

001 Tunic clear to smoky, zooids clear to whitish, siphons  
002 tinged with cinnamon-colored spots. See Day (p. 199).

003 sponges

004 Actinia equina

005 ? Metridium sp.



Note some  
zooids with  
long slits.

006 Alcyonium (Brick-red soft coral)

007 Aglaophenia ← Zooids of Adeonellopsis meandrina

008 Chamaelea colony uniform tan/salmon color.

009 Calochiton 27/11/95 - 1-018 (in branch)

010 Burnupena papyracea. All coated with dark

purple impocean Alcyonidium nodosum. #2.5 in branch

011 Egg cases of unknown gastropod

012 Aulacomys ater

013 Micella sp. A. Like M. spongiosa but with  
purple aperture & dark purple shell.

014 Burnupena sp. B. Black periostracum; purple  
aperture & dark purple shell

015 Chamaelea meridionalis. Large, smooth black,  
conical mussel.

Nov. 28, 1995

Namibia, off Luderitz, Penguin Is. 7-9 m.

15°C.

28/11/95-1:

001 sponge:

002 sponge:

003 sponge:

004 Actinia equina

005 ? metridium sp.

006 Alcyonium valdiviae (Brick red soft coral)

007 Aglaophenia pluma (#15.6 in Branch)

008 Chaetopleura papilio (#60.5 in Branch)

009 Callochiton castaneus (#60.1 in Branch)

010 Burnupena papyracea. All coated with dark purple bryozoan Alcyonidium nodosum. #16.5 in Branch

011 Egg cases of unknown gastropod

012 Aulacomya ater

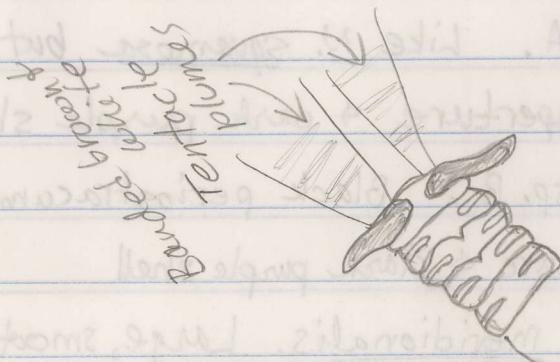
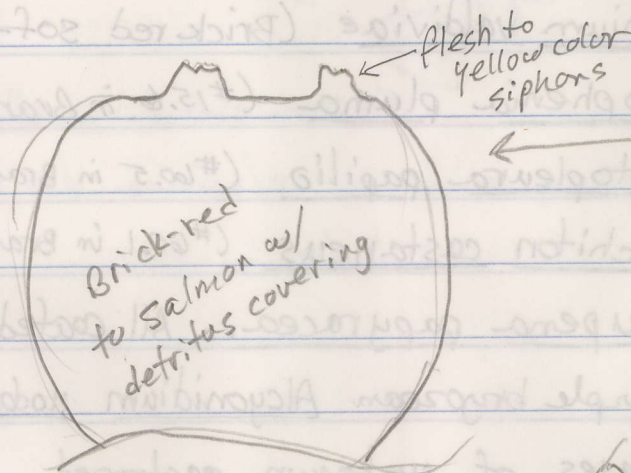
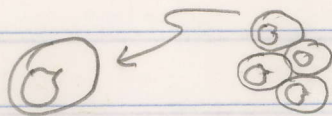
013 Nucella sp. A. Like N. squamosa but with purple aperture & dark purple shell.

014 Burnupena sp. B. Black periostracum; purple aperture & dark purple shell

015 Choromytilus meridionalis. Large, smooth, black, commercial mussel.

All 5 ambulacral row with only 2 rows of tube feet each ←

Body creamy-yellow, w/ tube feet & tentacles ←  
deeper yellow. 9 (10?) tentacles. Tube feet arranged in 5 discreet rows, each w/ 2 rows of podia.



Head end of one worm ←

28/11/95-1 (cont.)

- each ←
- 016 Dromia unidentata Shark Island (nature preserve)
- 017 Pseudocnella sykion common black cucumber. #96.3 in Branch
- 018 Thyone aurea. common orange cucumber. #95.2 in Branch.
- s ←
- 019 Pentacta doliolum (see p. 192 in Day, 1969; #95.3 in Branch)
- arranged
- 020 Parechinus angulosus
- podia.
- 021 Henricia ornata
- 500
- 022 Patiria granifera
- 400
- 023 Amphiplus integer
- 200
- 024 Discinisca tenuis
- 100
- 025 Laminopora bimunita. Resembles A. meandrina (#50.3 in Branch) but w/ round to oval zooids.
- 500
- 026 Pyura stolonifera. #97.1 in Branch (no photo!). "Red Bait"
- 200
- 027 Bugula ? Simple zooids; no avicularia; brown like B. neritina. Hermisenda-like nudibranch. #82.2
- 100
- 028 Unknown encrusting critter on mussel. Looks like a young scleractinea colony, but must be a bryozoa.
- 10
- 029 Menipea crispa. #49.6 in Branch et al.
- 510
- 030 Fan worm - Sabellidae. 4" long; 2 branchial crowns, not spiraling, each purple + white banded, tube leathery mud. Like Sabella pavona of Med.
- 10
- 031 Lepidonotus  
Semitectus dava (#18.1 in Branch)
- 032 small colonial brown anemone (on mussel shell).
- 10
- 033 Tube worm A. Form massive leathery tubes (not sand tubes), each tube to 10" long.
- me worm
- 018
- 019 Ophiotrypa fragilis (by Branch et al. #91.5),  
O. tridochis (by Day 1969)

28/11/95-2

- 000 Namibia, Luderitz, "Shark Island" (nature preserve).  
shore dive on rock on sand bottom, to 20'.  
55°F.
- 001 sponge: *anomalus* - yellow form. #98.6 in Branch.
- 002 sponge: (*anomalus*?) - Brown form.
- 003 sponge:
- 004 sponge:
- 005 sponge:
- 006 Actinia equina
- 007 Corynactis annulata
- 008 Patella argenvillei (#62.1 in Branch)
- 009 Patella barbara (#62.3 in Branch)
- 010 Aulacomys ater
- 011 Janolus capensis. Hermisenda-like nudibranch. #83.2 in Branch.
- 012 Chaetopleura papilio
- 013 Patella miniata miniata (#63.1 in Branch)
- 014 Burnupena papyracea
- 015 Burnupena sp. B (see 28/11/95-1)
- 016 Nucella sp. A (see 28/11/95-1)
- 017 Dromia unidentata (#47.3 in Branch; a tropical species according to Branch!)
- 018 Henricia ornata
- 019 Ophiothrix fragilis (by Branch et al. #91.5),  
*O. triglochis* by Day (1969)

28 Jul 95 - 2 (cont.)

020 Discinisca tenuis. 51.5 in Branch et al. Thin tan shells w/  
concentric growth  
lines & hairy  
margins.

021 Jasus lalandii. Common rock lobster.

022 Fasciolaria lugubris lugubris. #76.8 in Branch.

023 Botryllus anomalus - yellow form. #98.6 in Branch.

024 Botryllus (anomalus?) - Brown form.

001 Patella compressa. #63.5 in Branch.

005 Puccinia digitalis. #77.4 in Branch. Resembles

Patella black outer shell.

006 Austromegabalanus cylindricus. #26.0 in Branch.

007 Purpura stolonifera.

008 Botrylloides leachi. #92.5 in Branch; salmon color

009 " " " " " " ; Purple color

010 Botryllus magnificus. #98.3 in Branch.



29/11/95-1

Namibia, So. of Luderitz, Grossebucht,  
0' to 15'

No. Point of  
Big Bay.

001 Bunodosoma capensis. #3.5 in Branch.

002 Bunodosoma capensis. (juveniles)

003 Gunnarea capensis. #22.5 in Branch

004 Patella compressa. #63.5 in Branch

005 Billia digitalis. #78.4 in Branch. Resembles  
a black miter shell.

006 Austromegabalanus cylindricus. #16.6 in Branch.

007 Pyura stolonifera.

008 Botrylloides leachi. #98.5 in Branch; salmon color

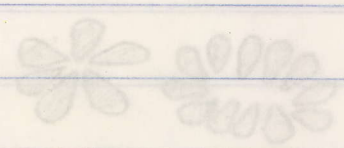
009 " " " " ; Purple color

010 Botryllus magnicoecus. #98.3 in Branch.

011 Urosalpinx

012 Patina granifera

013 Botrylloides leachi



This colony with both  
white and purple zooids, encrusting algal  
stems & growing as  
2-5 cm tall lobes into  
the water.

30/11/95-1

Namibia, S. of Luderitz, at the "Fjord".

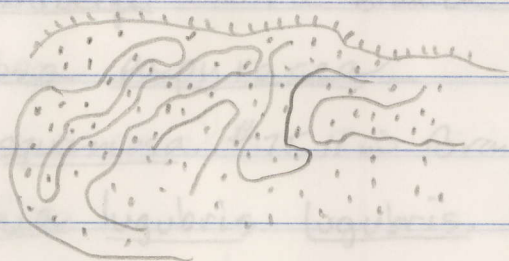
010 4-20' scuba collection. H<sub>2</sub>O T° = 54°-57° F.

- 001 Actinia equina
- 002 Argobuccinum pustulosum. #74.4 in Branch. Note: Brown bands continue on inner lip (not shown in Branch).
- 003 Gunnarea capensis. #22.3 in Branch. ent (w/ vinegar)
- 004 Jasus talandii but surface
- 005 sea anemone A. Uniform light brown; many long tentacles; spherules at base of tentacles (same color as rest of animal); no warts; no acontia.
- 006 Anthopleura sp. (A. michaelsoni?). Solid off-white in color, no stripes or spots; adhesive warts; ~100 tentacles.
- 007 Henricia ornata smaller colony & w/o
- 008 Patiria granifera
- 009 Botrylloides leachi #49.7 in. This colony with both white and purple zooids; encrusting algal stems & growing as 3-5 cm tall lobes into the water.



30/11/95-1 (cont.)

- 010 Mystry tunicate A. Gray-tan amorphous masses, to 5" across; folded & convoluted to form an ovate brain-like structure 15 mm thick; zooids indistinct, not in cycles & not with shared excurrent pores. No  $\text{CaCO}_3$  spicules



apparent (w/vinegar), but surface minutely hirsute (visible at lowest power).

011 Botryllus anomalus

- 012 Mystry tunicate B. Perhaps the same as 30/11/95-1-10, but smaller colony & w/o brain-like appearance.

013 Onchoporella buskii, #49.7 in Branch = Frond-like bryozoan.

1/12/95-1

- 007 Namibia, Luderitz, Shark Island (nature  
010 preserve). shore dive on rocks & kelp, 0-5m.  
018  
020 13°C to 59°F, algal (on the brown alga  
(*Eggaria obtusa*)
- ✓ 001 Jellyfish, Semaestomae. Large (~15" diameter),  
solid purple. Chrysaora hysoscella. #13.4 in Branch
- ✓ 002 Thais wahlbergi. #75.7 in Branch smoky-black; white
- 003 Burniopera papyracea in Branch.
- ✓ 004 Nucella squamosa. #75.11 in Branch blue-orange; white
- 005 Fasciolaria lugubris lugubris. #76.8 in Branch.
- ✓ 006. Patella granatina. #63.3 in Branch
- ✓ 007 Patella granularis. #63.4 in Branch
- 008 Patella argenvillei
- 009 Patella barbara - 9er
- 010 Janolus capensis
- ✓ 011 Philine aperta
- ✓ 012 Eggs of Philine aperta
- ✓ 013 " " unknown gastropod
- ✓ 014 Sabellastarte sanctijosephi. #23.2 in Branch.
- ✓ 015 Paguristes gamianus #40.5 in Branch.
- ✓ 016 Clibanarius sp. A. legs banded w/ yellow, red & blue;  
blue eyestalks; dactyls w/ red stripes.

017 Alcyonidium nodosum (Lalotry) Marshall Rocks

018 Anchoporella buskii (see 30/11/95-1-013)

→ 020 Botryllus anomalus (on the brown alga  
Epgmenia obtusa)

019 ? Adeonellopsis sp. Same as 28/11/95-1-025

021 Botryllus anomalus. Zooids smoky-black; matrix  
clear.

022 Botryllus anomalus. Zooids yellow-orange; matrix  
clear.

023 Parechinus angulosus

024 Patiria granifera

025 Henricia ornata

026 Amphiplus integer

004 Meriplexus crispus

005 Leptopygia binunita (bryozoan) #502 in Branch

006 Collopora cylindriciformis #503 in Branch

007 Avlaconya ater

008 Burnupena papiracea

009 Nucella squamosa

2/12/95

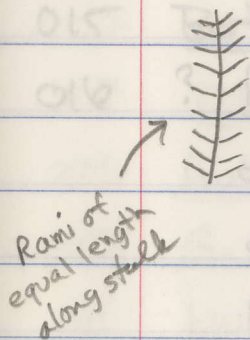
Namibia, No. of Lüderitz, Marshall Rocks.

12-14 m. 13° C.

001 Chrysaora sp. #13.2 in Branch, except no blue color (clear, whitish); upper surface w/ radiating pale tan lines.

002 Bunodactis reynaudii. Red & pale green forms.

003 Hydroid, Sertularidae ca. Amphisbetia



004 Menipea crispa

005 Laminopora bimunita (bryozoan). #50.2 in Branch

006 Cellepora cylindriciformis. #50.7 in Branch

zooids →

007 Avlaconya ater

008 Burnupena papyracea

009 Nucella squamosa

4/12/95

010 Nucella dubia (= Thais dubia). # 75.10 in Branch.

011 Patiria granifera

012 Henricia ornata

013 Mystry tunicate C. Large hemispherical masses on rocks, to 7" across & 4" tall. Uniform grey but coated with even coating of fine sand. Attachment side opaque olive green (w/o sand).

014 Botrylloides leachi

015 Botryllus anomalus

016 ? Polycitorella pallida. Encrusting, 3"-4" across; dull olive green w/ black spot marking each zooid; surface of colony folded & spongelike, with large "oscula"; many white spicules throughout, dotting individual zooids as well as matrix; inhalant siphon w. distinct white clustered/flattened spicules.

014 Patella argenvillei

015 Chaetopleura papilio

016 Phylloidesmium sp? Like P. serratum but body pure white.

017 Armenia sp. Head & foot opaque white; body brown; white stripes along dorsum.

4/12/95

Namibia, Luderitz, 1-6m in front of Pesca Nova  
plant; on rocks, kelp & pilings. 55°F.

001 Carybdea alata. Cubomedusa. #13.1 in Branch

002 Actinia equina. #3.3 in Branch.

003 Anthothoe stimpsoni. #3.2 in Branch

004 ? Metridium sp.

005 Anthopleura michaelseni. #4.1 in Branch

006 " Paranthus angulosus " - whitish/gray form.

007 " Ophiotrix fragilis " - blue form

008 Choromytilus meridionalis

009 Aulacomya ater

010 Gastropod eggs

011 Nucella squamosa

012 Burnupena papyracea

013 Burnupena sp. A. #76.4 in Branch.

014 Patella argenvillei.

015 Chaetopleura papilio

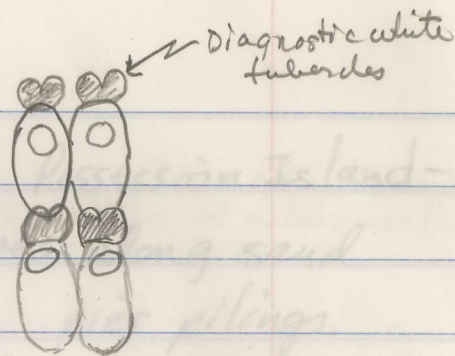
016 Phyllodesmium sp? Like P. serratum but  
body pure white.

017 Armenia sp. Head & foot opaque white;  
body brown; white stripes along dorsum.



018 Membranipara tuberculata

#48.6 in Branch, on  
large flat blades of  
brown algae.



019 Onchoporella buskii

020 Jasus lalandii

021 → 027 = Sponges

028 Patiria granifera

029 Parechinus angulosus

030 Ophiothrix fragilis

031 Botryllus anomalus (on red alga Epymenia obtusa)

032 " " ("Seaweed Form")  
(Firm purple-brown form)

033 " " (slimy yellow form)

034 ? Lissoclinum sp. A.

Zooids black at surface; yellow deeper in matrix;  
surface of matrix covered w/ white spots (Ca(O<sub>3</sub>-  
spicules?); bubbles in vinegar.

5/12/95

Namibia, So. of Luderitz, Possession Island -  
inner shore. Shallow dives along sand  
beach, rocky coast, & on pier pilings.

55°F. 1-4m depth. This island harbors

a Jackass Penguin colony & an old guano  
settlement (now a fisheries dept. facility).

5/12/95-1 -

001 Anthothoe stimpsoni

002 Patella granularis

003 Patella argenvillei

004 Patella compressa

005 Choromytilus meridionalis

006 Chaetopleura papilio

007 Burnupena sp.

008 Burnupena papyracea - juveniles

\* 009 Nodilittorina africana knysnaensis. #69.1 in Branch.

010 Patella barbara

011 Argobuccinum postulosum

012 Fasciolaria lugubris lugubris

013 Anthopleura michaelseni - typical form

014 " " - whitish/gray form

015 " " - Blue form

30/11/95-1-005

- 016 Sea anemone A. Small brown, living in sand. Resemble large version of a Palythoa (but not colonial).
- 017 Corynactis annulata
- 018 ? Omalasecosa sp. - Resembles Med. O. ramulosa. (coral-like bryozoan)
- 019 Sabellastarte sanctijosephi
- 020 Tube worm A (= 28/11/95-1-033)
- 021 Depidonotus semitectus clara
- 022 Sipunculan sp. A - smooth brown body; to 3" (w/ introvert contracted); no thin tail.
- 023 Dromidia unidentata
- 024 Cryptodromiopsis spongiosa. #47.1 in Branch
- 025 Patiria granifera
- 026 Henricia ornata
- 027 Parechinus angulosus
- 028 Pentacta doliolum (= 28/11/95-1-019)
- 029 Thyone aurea (= 28/11/95-1-018)
- 030 Ophioderma wahlbergi. #91.3 in Branch.
- 031 Ophiothrix fragilis
- 032 Botryllus anomalus, seaweed form.
- 033 Botrylloides leachi, purple-colored form.
- 034 Tunicate sp. C

018 Tube worm sp. B / 2 individual tube worms  
1 mm diameter to 10 cm long

6/12/95

\*019 Namibia, Luderitz Harbor, Seal Island, north end,  
12°C to 6 m depth, rubble w. dense mussel beds,  
020 all mussel clumps covered w. hundreds of brittle stars.  
021 Visibility less than 1 m.  
022

023 *Mucella squamosa*  
001-008 Sponges

009 *Anthothoe stimpsoni*

\*010 *Pseudactinia flagellifera*

011 *Eunicella papillosa*

\*012 *Laminopora bimunita*

\*013 *Bugula dentata*

\*014 ? *Onchoporella* sp.

031 *Thyone aurea*

+032 *Diplosoma* sp.

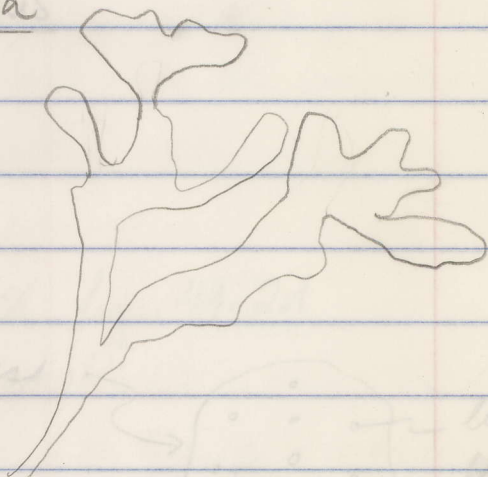
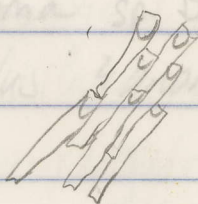
+033 *Botryllus* sp.

015 *Discinisca tenuis*

016 *Kraussina rubra*

017 *Sipuncular* sp. A

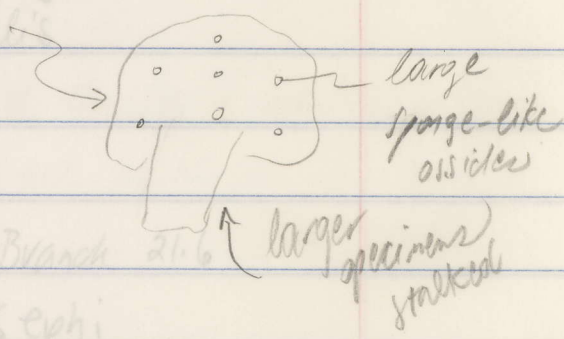
\*018 Tube worm sp. B



individual tube worm  
1 mm diameter to 10 cm  
long

7/12/95

- \* 019 Timarete capensis (ex. oyster farm (site #1) 5)
- 020 Lepidonotus semitectus clava (1 m to ~3 m)
- 021 Patella compressa (from surface by hand)
- 022 Burnupena papyracea (surface)
- 023 Mucella squamosa
- 024 Aulacomya ater
- 025 Chaetopleura papilio
- 026 Henricia ornata
- 027 Patiria granifera
- 028 Parechinus angulosus
- 029 Ophiothrix fragilis
- 030 Pentacta doliolum
- 031 Thyone aurea
- \* 032 Diplosoma sp. B (Branch fig 49.2d)
- \* 033 Botryllus ? anomalus
- \* 013 Mucella irregularis
- 014 Mucella dubia
- 015 Timarete capensis - Branch 21.6
- 016 Sabellastarte sanctijosephi
- 017 Jasus lalandii
- \* 018 Notomegabalanus algiola - Branch 26.7
- \* 019 Balanus maxillaris - Day 1969: 79



7/12/95

Namibia, Luderitz Harbor, oyster farm (site #1)  $\frac{1}{2}$

ship wreck w. mussel ropes (site #2), 0.1m to ~3m

depth. Collections made from surface by hauling oyster racks/mussel ropes to surface.

*Pentacta doliolum*

*Botryllus anomalus*. Slimy yellow form.

001-005 Sponges *anomalus*. Firm brown form

006 *Corynactis annulata*

007 *Anthopleura michaelsoni*

\* 008 *Anthothoe stimpsoni*

\* 009 *Chrysaora* sp. see description on computer

\* 010 *Bugula neritina*

011 ? *Bugula* sp. 2-3mm high

nearly matches Branch fig. 49.2d

012 *Choromytilus meridionalis*

\* 013 *Nucella cingulata*

014 *Nucella dubia*

015 *Timarete capensis* - Branch 21.6

016 *Sabellastarte sanctijosephi*

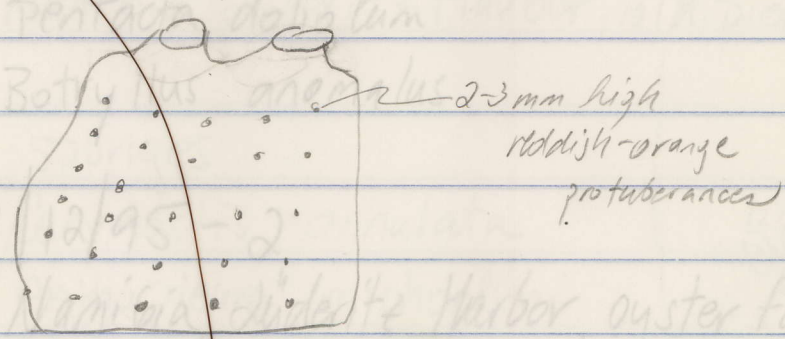
017 *Jasus lalandii*

\* 018 *Notomegabalanus algiicola* - Branch 26.7

\* 019 *Balanus maxillaris* - Day 1969: 74

8/12/95-1

- 020 *Ophiotrix fragilis* Harbor northeast end of
- 021 *Paraechinus angulosus* 7m
- \* 022 *Pativiella* sp.
- 023 *Thyone aurea*
- 024 *Pentacta doliolum*
- 025 *Botryllus anomalus*. Slimy yellow form.
- 026 *Botryllus anomalus*. Firm brown form
- 027 *Botrylloides leachi*
- 028 ? *Polycitorella pallida*
- \* 029 *Molgula scutata*
- \* 030 ? *Pyura* sp. - see description on computer



- 029 *Pentacta doliolum* Harbor all over 1-3m
- 030 *Botryllus anomalus* 2-3 mm high reddish-orange protuberances
- 031 *Nemisia* Harbor oyster farm, 0.1-3m
- 032 Collections made from surface by heating oyster racks to surface
- 033 *Pyura* sp.
- 001 *Spongia* sp.
- 002 *Chrysaora* sp.
- 003 *Chrysaora physoscella*

8/12/95-1

Namibia, Lüderitz Harbor, northeast end of  
Penguin Island, SCUBA, 6-7m.

001-002

Sponges

003

*Adeonellopsis meandrina*

004

*Patella barbara* us. Firm brown form.

005

*Patella loides miniata miniata*

006

*Henricia ornata*

007

*Patiria granifera*

008

*Ophiothrix fragilis*

009

*Pentacta doliolum* Harbor, old pier, 30. 1-3m.

010

*Botryllus anomalus*

001-003

Sponges

8/12/95-2

*annulata*

004

Namibia, Lüderitz Harbor, oyster farm, 0.1-3m.

\* 006

Collections made from surface by hauling oyster

\* 007

racks to surface

008

*Aulacomys ater*

001

Sponge

002

*Chrysaora sp. pyracea*

003

*Chrysaora hysoscella*



8/12/95 cont.

004 Anthopleura michaelsoni

005 Bugula neritina mitectus clava

006 Bugula sp. variegata

\* 007 Doris verrucosa algicola

\* 008 Lepas sp. axillaris

009 Botryllus anomalus. Firm brown form.

010 Botrylloides leachi

011 Molgula scutata

012 Ophiotrix fragilis

8/12/95-3

Namibia, Lüderitz Harbor, old pier, 0.1-3m.

001-003 sponges

004 Corynactis annulata

005 Anthopleura michaelsoni

\* 006 Godiva sp.

\* 007 Goniadoris sp.

008 Aulacomya ater

009 Nucella squamosa

010 Burupena papyracea

8/12/95 cont.

Namibia, So of Lüderitz, Grossebucht

011 Mucella dubia

012 Lepidonotus semitectus clava

\* 013 Pseudonereis variegata

014 Motomegabalanus algicola

015 Balanus maxillaris. Firm brown form

016 Dromidia unidentata

017 Henricia ornata

018 Patriella sp.

019 Ophiothrix fragilis

020 Botryllus anomalus. Slimy yellow form.

021 Botryllus anomalus. Firm brown form.

010 Sand

011 Bullia annulata

9/12/95

Namibia, So. of Lüderitz, Grossebucht,  
~3m.

001 Botrylloides leachi

002 sponge: Desmacidium sp.

003 Botryllus anomalus. Firm brown form.

004 sponge

005 sponge

006 sponge

007 algae

008 Henricia ornata

009 algae

010 sand

011 Bullia annulata