

Unusual* trawl caught invertebrates

This is not an exhaustive listing but rather those animals not seen commonly in the POTWs' standard monitoring programs a more comprehensive and complete presentation is in the works.

Disclaimers:

No guarantees as to identifications

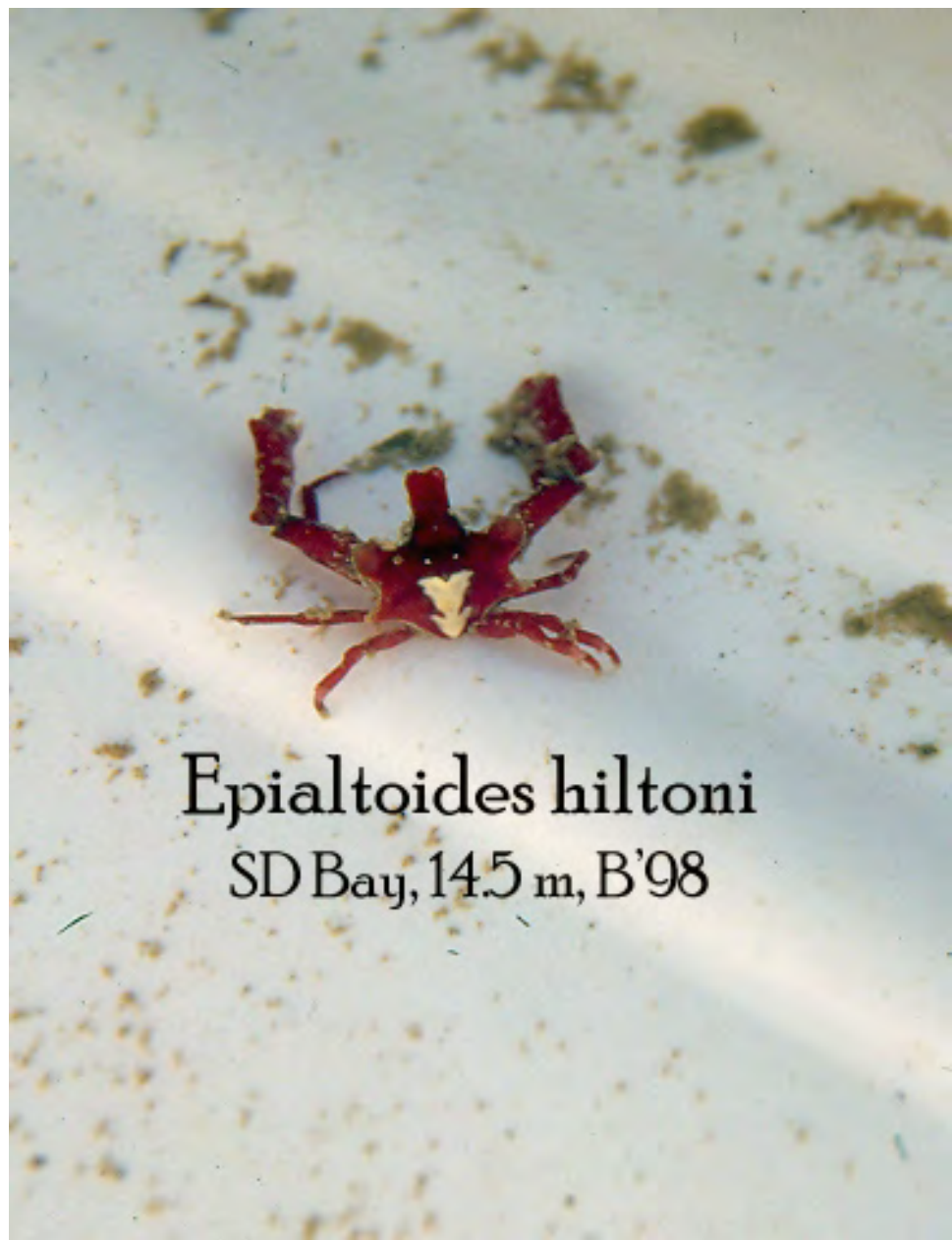
Some photos have "old" names on the field labels. I've tried to make comments where needed

Photo credits – N. Haring (CSD) and others

Much help was given by D. Cadien with regards to depth ranges, recommended literature, etc.

CRUSTACEA







Portunus xantusii
(Stimpson 1860)

Station: 9006
Depth: 14 m
16 Jul 2013



Could be confused with *Callinectes* – use Garth and Stephensen 1966. Brachyura of the Pacific Coast of North America, Brachyrhyncha. Portunidae. Has keys, illustrations, etc., and covers all west coast species

Callinectes bellicosus is not in SCAMIT Species List, but should still keep an eye out for it.

6 cm



The white
tipped dactyls
are distinctive



Metacarcinus gracilis
(Dana 1852)

Station: 9005
Depth: 18 m
16 Jul 2013

Pagurus armatus

Another shallow water species of hermit crab is *Pagurus pilocarpus*. Can't currently find a good picture, but will have one in the larger presentation to be posted later. See Jensen 1995.



Hemisquilla californiensis (Crustacea: Stomatopoda)
Stephenson 1967



5 cm

CSDB08T20
7068, 31 July 08, 75m

Schmittius politus
SD-13, July 2014, 100m
(scale bar colors are 1cm)





Nymphon pixellae

Can also get *Nymphon heterodenticulatum*

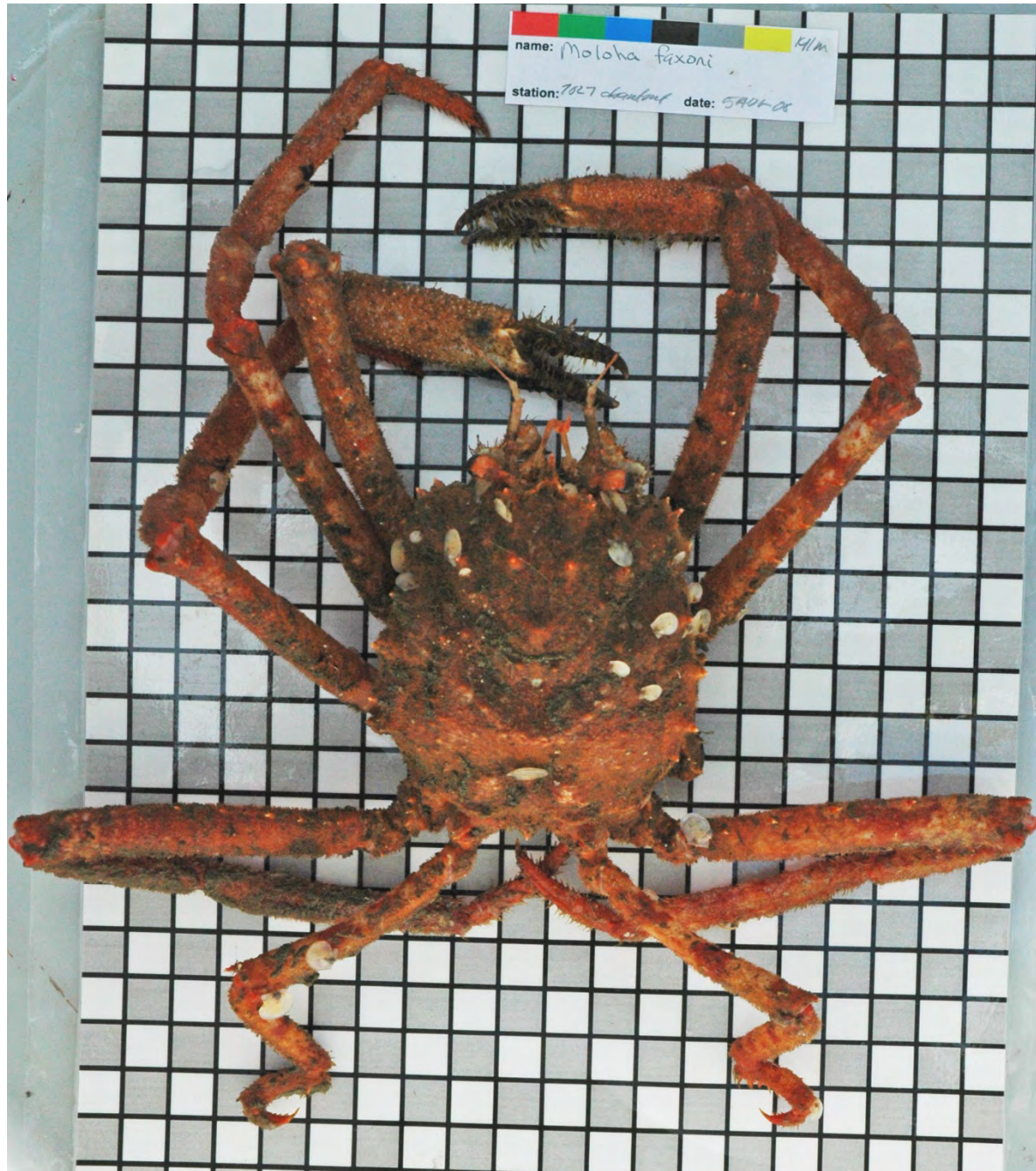
If you get an non “pixellae-looking”
Nymphon, bring back for FID

Depth: 60-100m



Metacrangon spinosissima
(Rathbun 1902)

Station: 9073
Depth: 182 m
7 Aug 2013



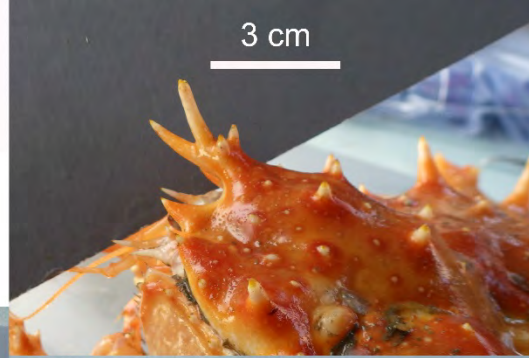
Moloha faxoni

Depth range – 18-460m

Note the modified last pair of appendages

Paralithodes californiensis
(Benedict 1894)

Station: 9011, 9013
Depth: 184 m
22 Jul 2013



Can also see *Paralithodes rathbuni*

Know how separate? Use Montagne 1998.

Depth range usually 200m+, but juv *P. rathbuni* have been found near 100m by CSD.

Look for parasitic barnacle under the “abdominal somites”

Munida hispida



Depth range: 165-500m. Also look out for *Munida quadrispina* (12-1463m) as well as the species of *Munidopsis*.

Munidopsis can be distinguished easily from the *Munida* by having white, rather than pigmented, eyes. There are three in our area:

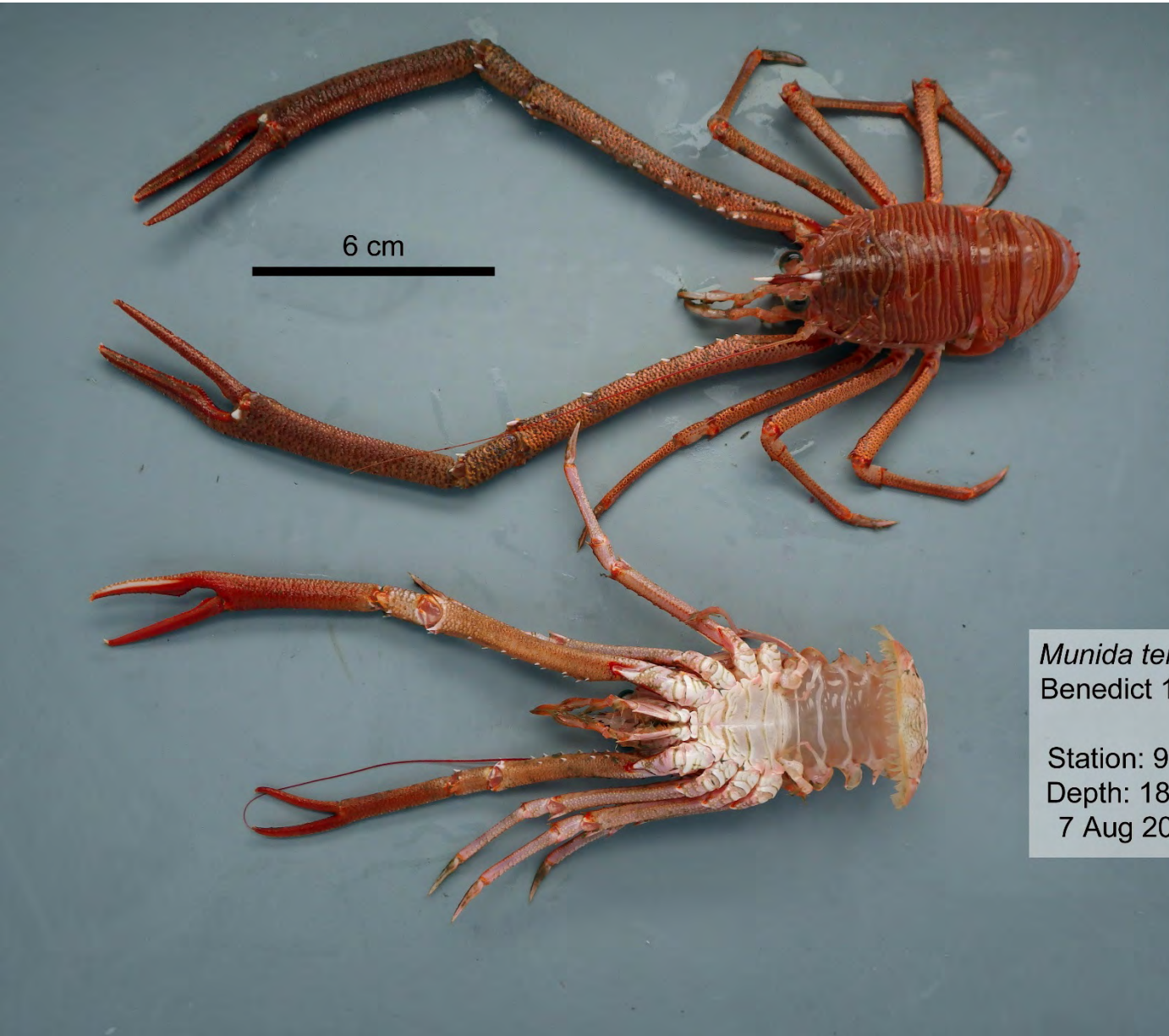
Munidopsis aspera (104-2748m)

M. depressa (185-1255m)

M. quadrata (86-1572m)

“As for the galatheids in general, I’d use the field key that is under “other useful tools” in the SCAMIT toolbox. It has everything except *M. tenella*, which was taken after it was constructed.”

- DBC



Munida tenella
Benedict 1902
Station: 9073
Depth: 182 m
7 Aug 2013

tail spines are one of the separating characters

Pleuroncodes planipes

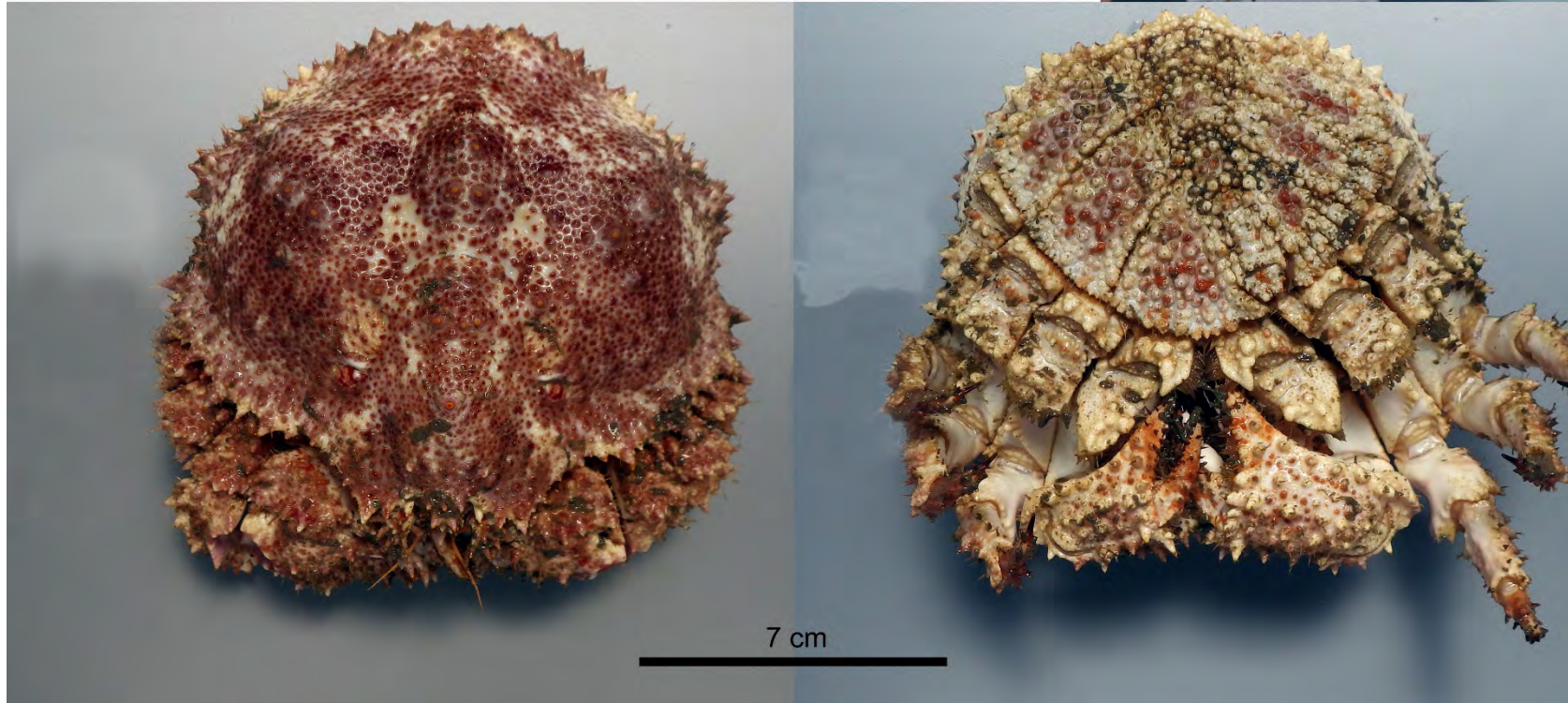
World domination plans... in 2016 a **1 minute trawl** produced a **108 kg** haul, comprised of approx. **19,000** individuals



Depth range: Intertidal (northern range) -547m;
we usually see it around 200m+

Lopholithodes foraminatus
(Stimpson 1859)

Station: 9051
Depth: 196 m
7-Aug-2013



Chorilia longipes



Depth range – 33-1200m;
use caution not to confuse
with *Loxorhynchus*

Glyptolithodes cristatipes
(Faxon 1893)

5 cm



CSDB08T19

7064, 5 Aug 08, 378m

Depth range: 183-800m

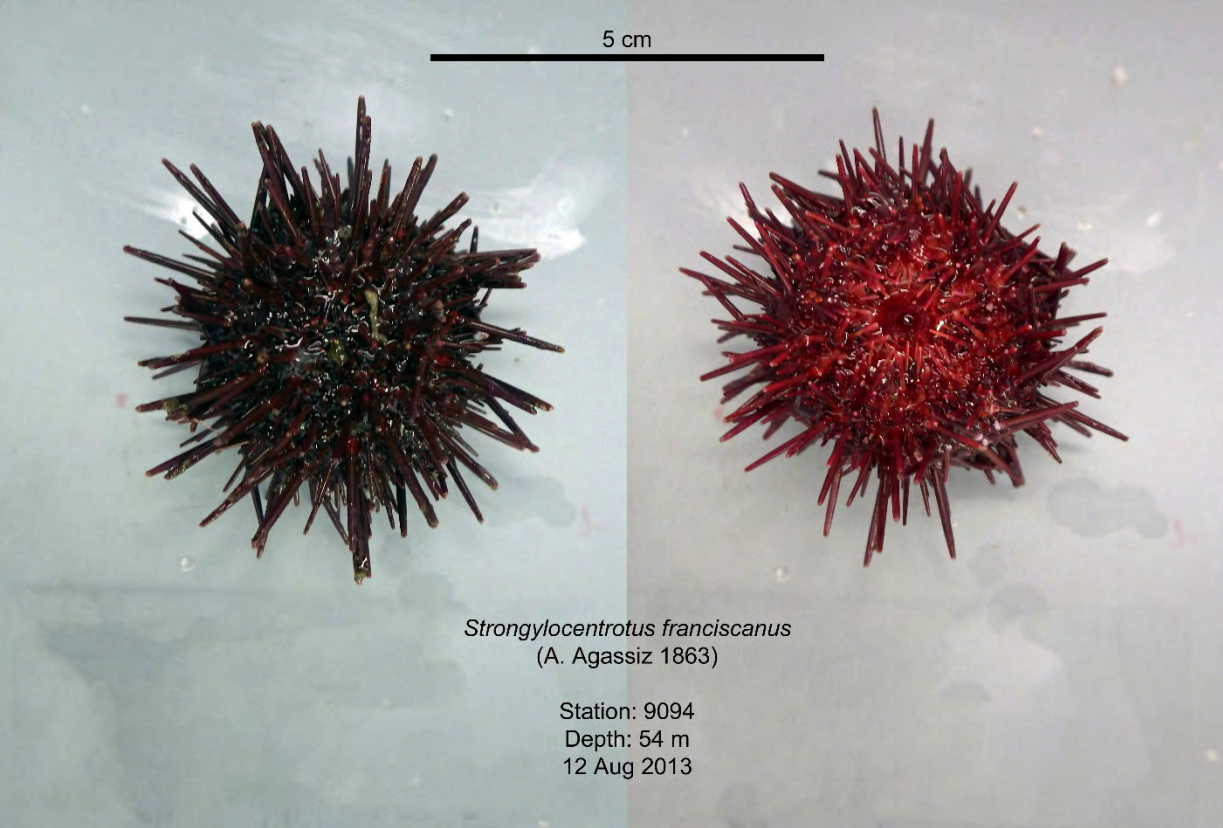
Echinodermata

Dangerous predators....

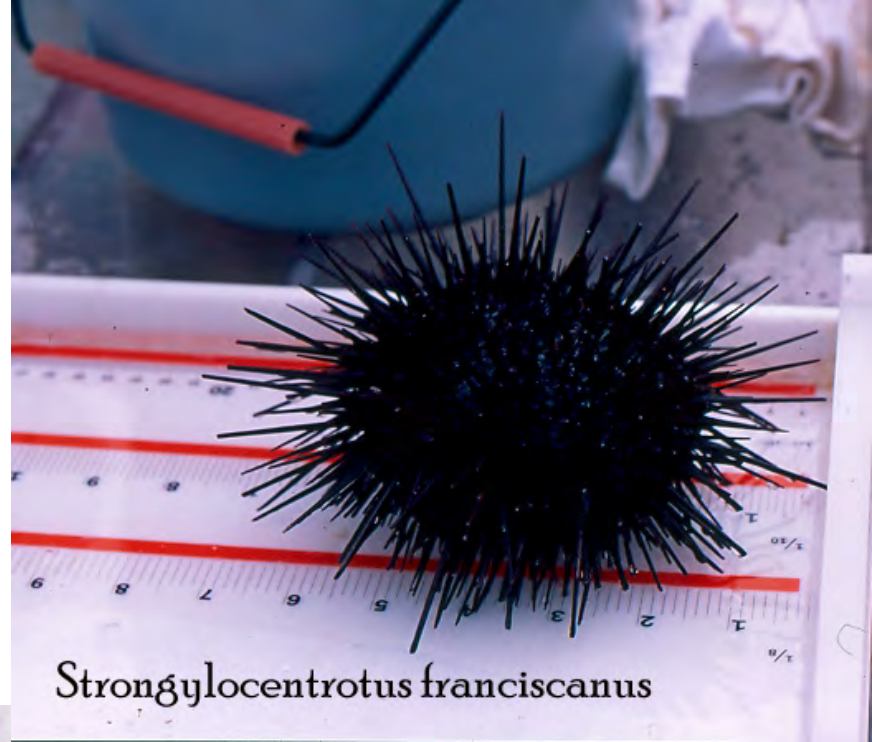


Occurs in shallow sandy habitat but further offshore than *Dendraster excentricus*; *D. terminalis* is usually found around 30m by CSD





Is now *Mesocentrotus franciscanus*
Maluf: 0-125m



Also watch for
Centrostephanus coronatus
(very long spines)
Maluf: 0-125m

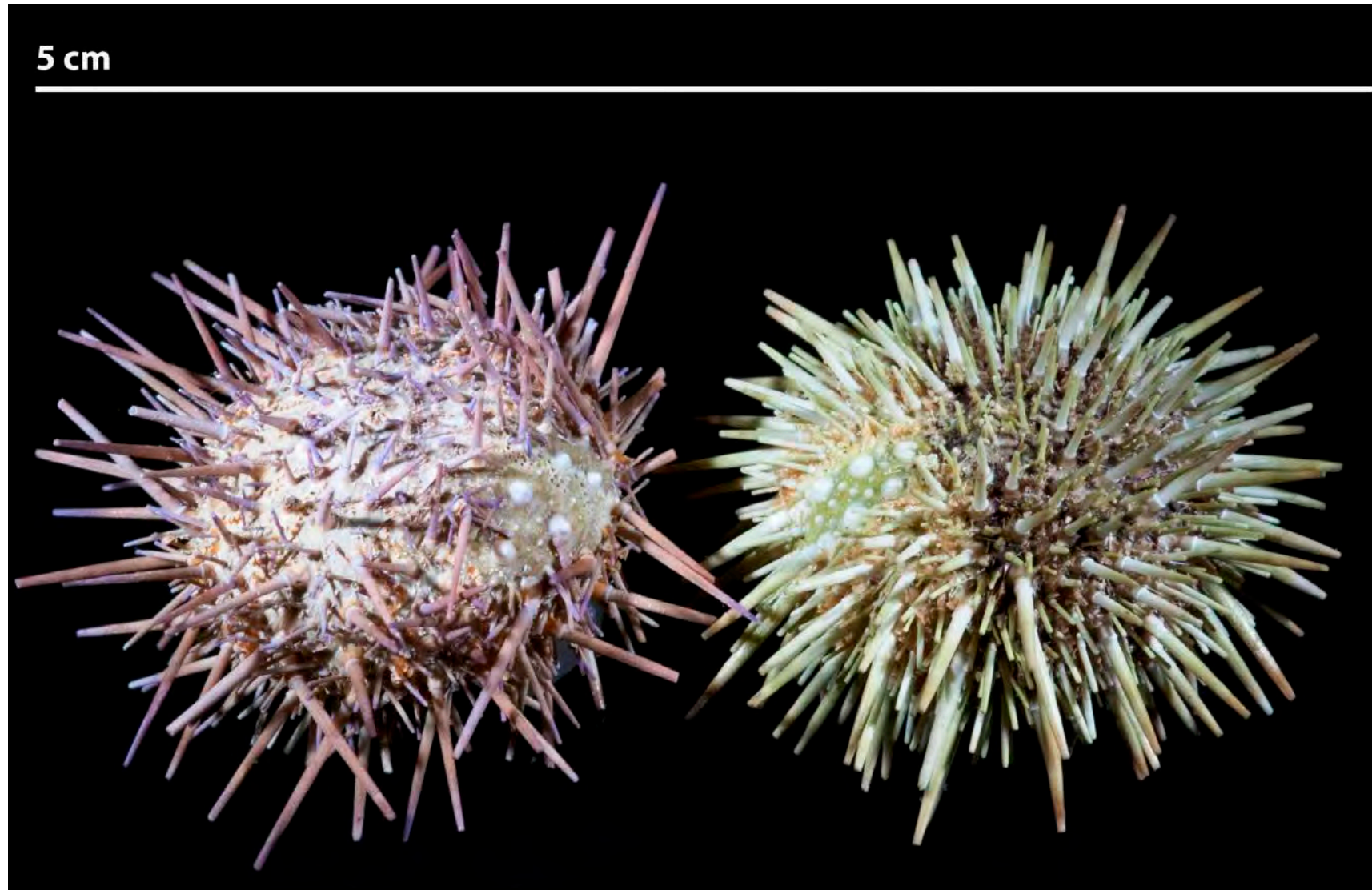


Arbacia incisa
0-91m
photo from Baja Sur

Strongylocentrotus purpuratus -2 color morphs

ID verified by R. Mooi

Maluf: 0-161m



Apostichopus parvimensis



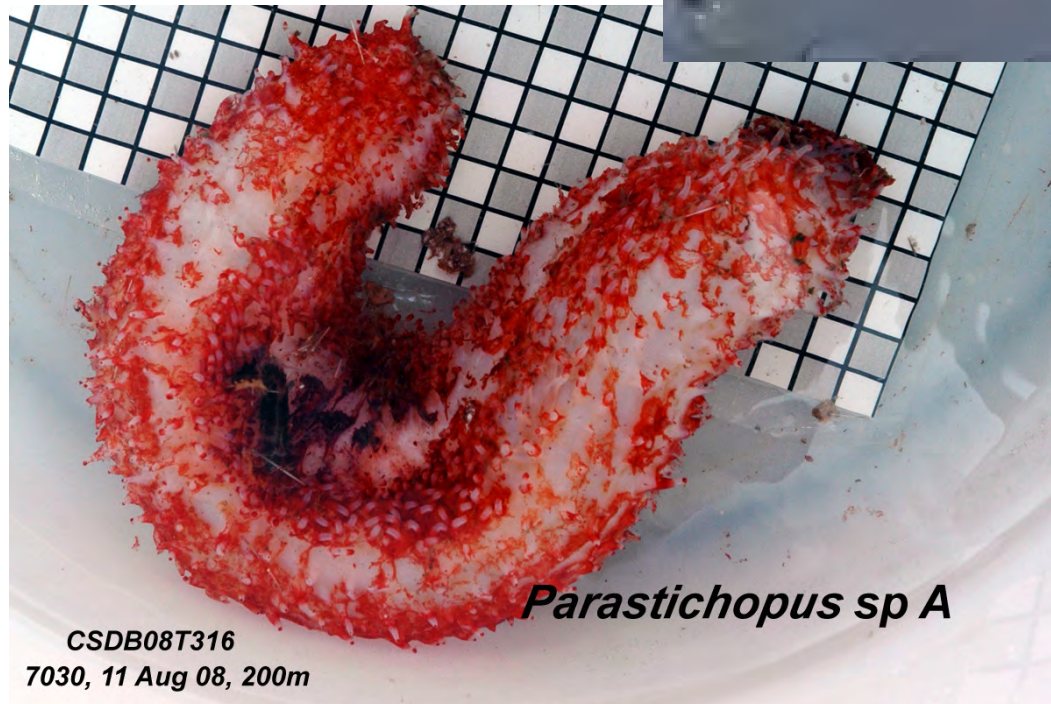
Shallow water, the animal in this picture was from a CSD B'98 station in 18.5m; Depth range – low intertidal to 30m

The *Apostichopus* spp conundrum

Variations on *A. californicus*
To 100 m



Variations of *Apostichopus* sp A?
Usually around 200m+



Apostichopus sp??

If you get an unusual looking *Apostichopus*, photograph and take a tissue snip that includes tube feet



Also worrisome are the possibilities of
Apostichopus leukothele and *A. johnsoni*.....

Apostichopus leukothele

(photo from:

<http://ibis.geog.ubc.ca/biodiversity/efauna/>)

this animal was photographed at diving
depths in BC.



OCS D *Apostichopus* sp A?



Apostichopus johnsoni (photo from:
<http://bizarrecreature.blogspot.com/2014/11/creature-35-parastichopus-johnsoni.html>)



Maluf: 212-2599m



Pannychia moseleyi

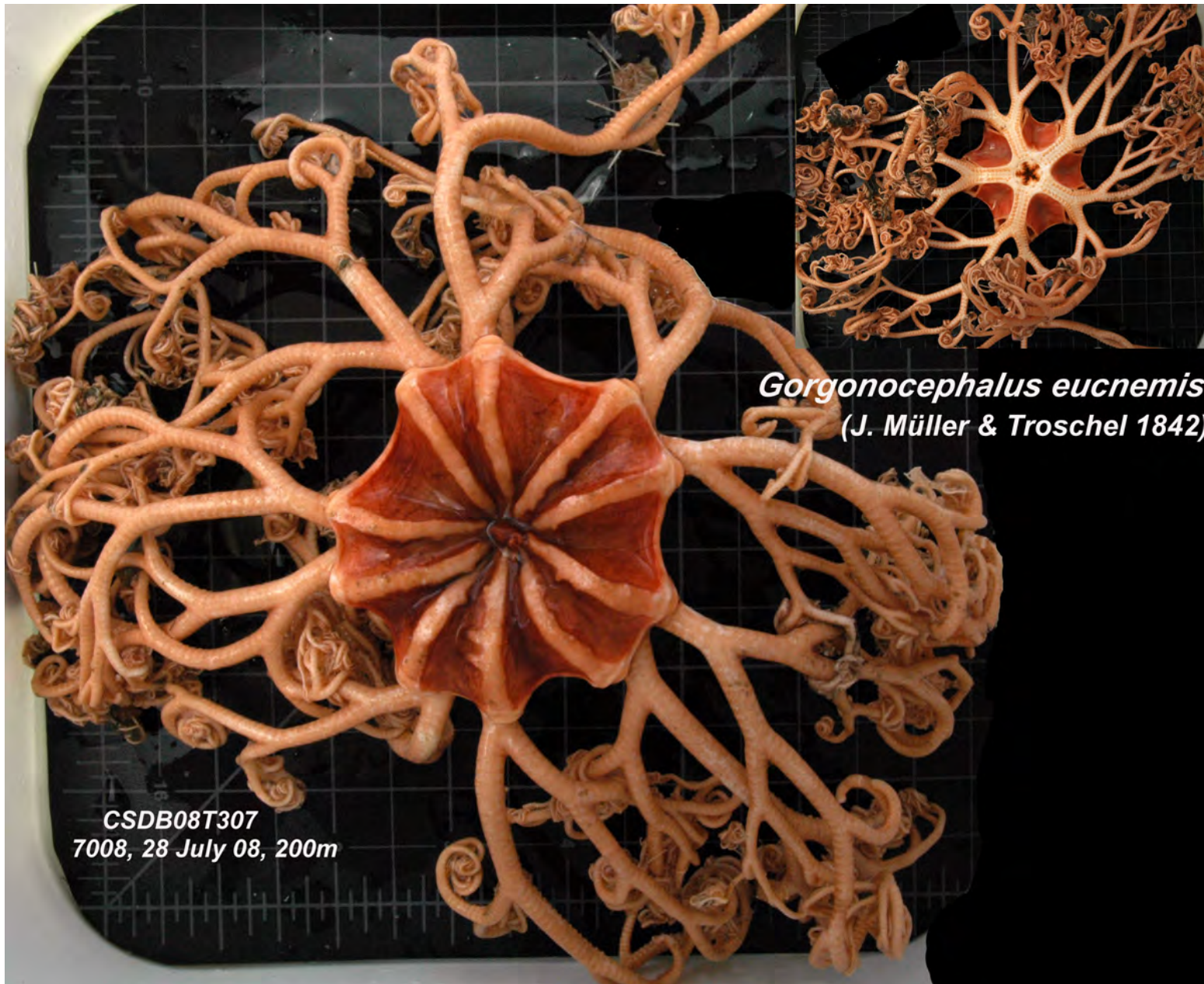


Synallactes virgulasolida

B'13 intercal trawls, LACSD
March 2013, 450m



Synallactes virgulasolida
LACSD B'13 intercal trawls
28 March 2013, 450m



Usually found $\geq 200\text{m}$

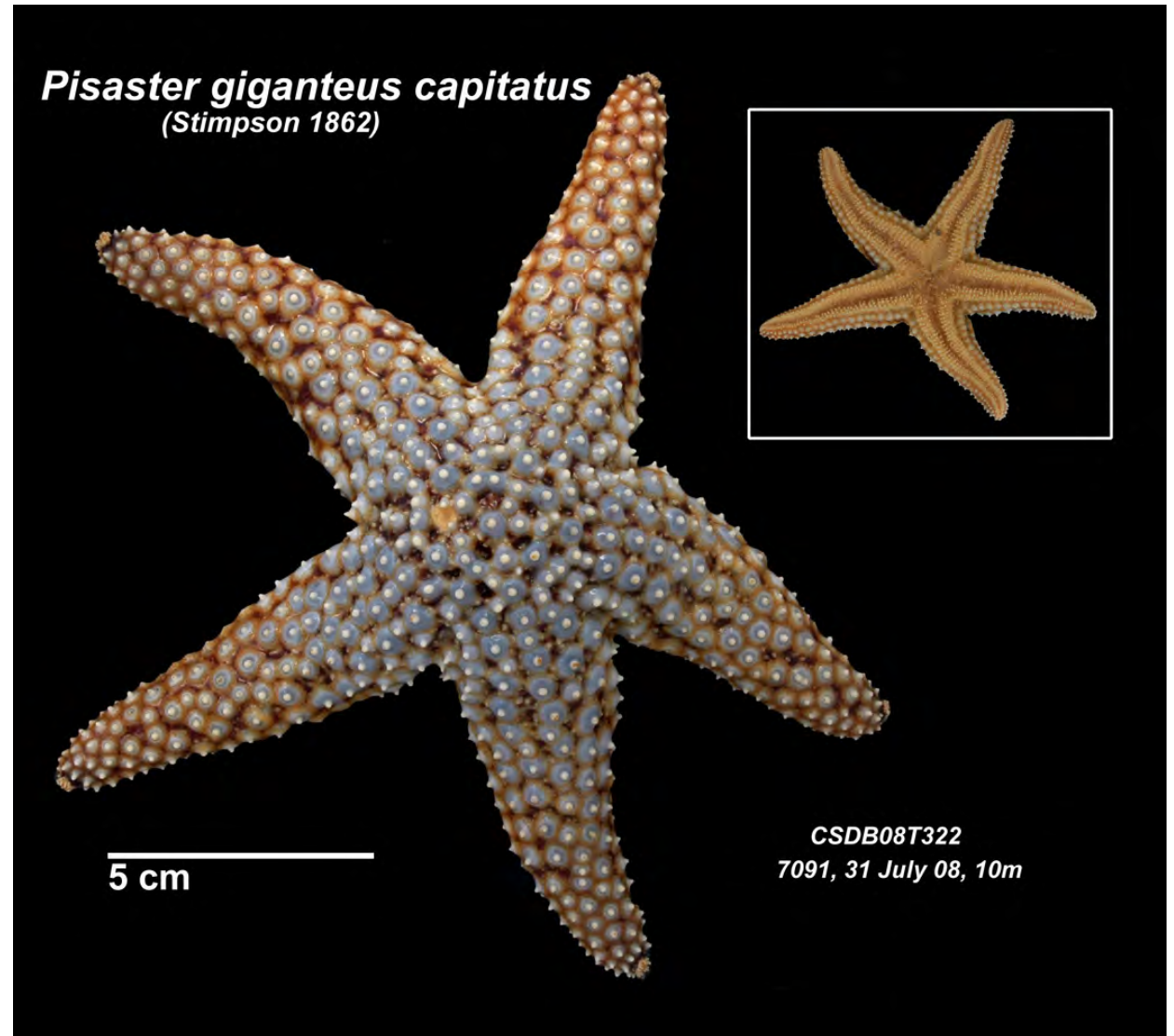
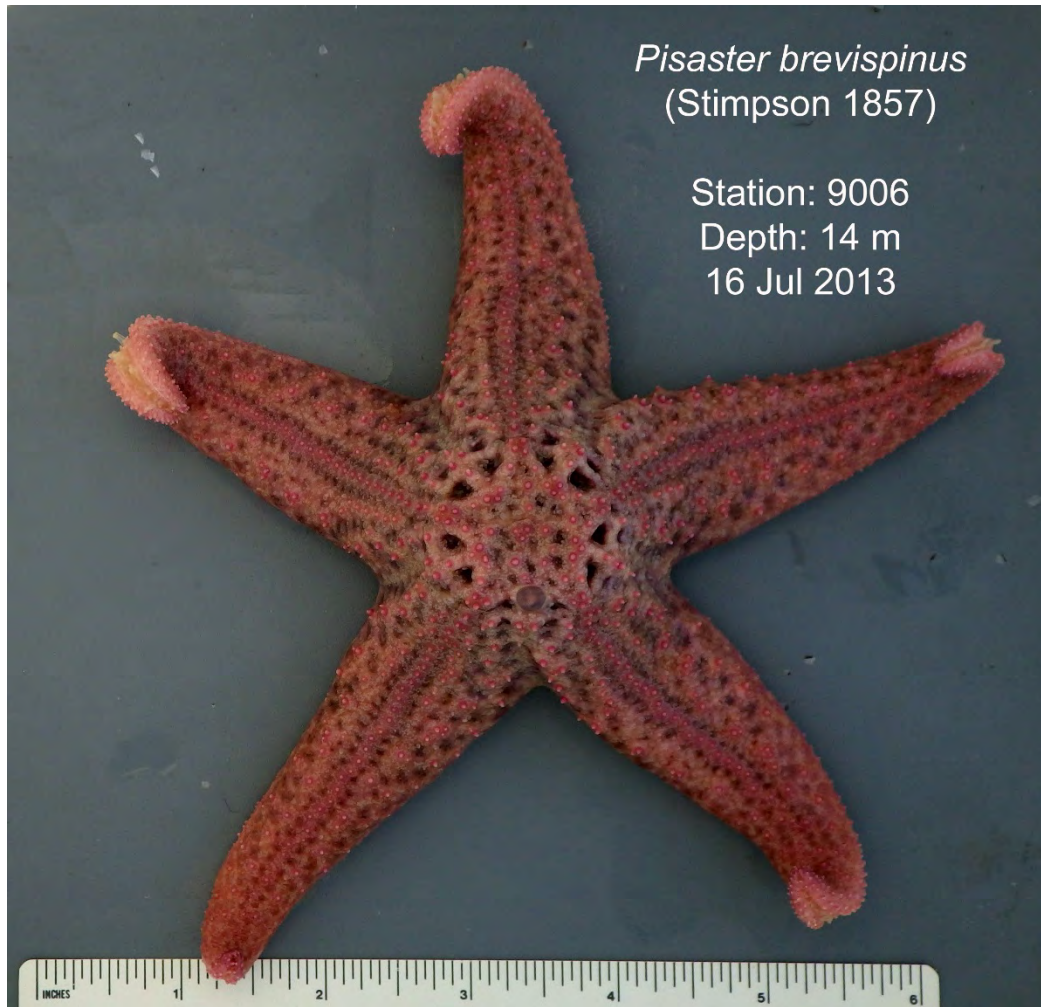


Asteronyx longifissus

Found in deeper waters,
Maluf: 265-1800m;
often associated with
Halipterus californica

Shallow water

And... *Pisaster ochraceus*; still looking for picture.



Low intertidal to 200m





A. armatus – 10-20m (maybe shallower?)

A. californicus – 30-200m (has been seen deeper)

A. ornatissimus – usually ≥ 200 m (seen shallower during upwelling events)

Juvs (less than 5 cm from arm tip to arm tip) found in 20-30m water should be left at *Astropecten* sp

Luidia armata
Ludwig 1905

5 cm



CSDB08T311
7009, 25 July 08, 58m

L. armata – Maluf: 15-284m

Luidia spp

When in doubt use pedicellaria
to ID to species

L. armata – trivalve pedicellaria

L. asthenosoma – bivalve ped

L. foliolata – no pedicellaria

Luidia foliolata
Grube 1866



5 cm

CSDB08T317
7032, 29 July 08, 135m

L. foliolata Maluf: 0-476m

Luidia asthenosoma



Notes:
Fragile arms break off easily
long arms spines
solid, reddish coloration

L. asthenosoma Maluf: 20-620m

Maluf: 18-435m

Sclerasterias heteropaes

5 cm



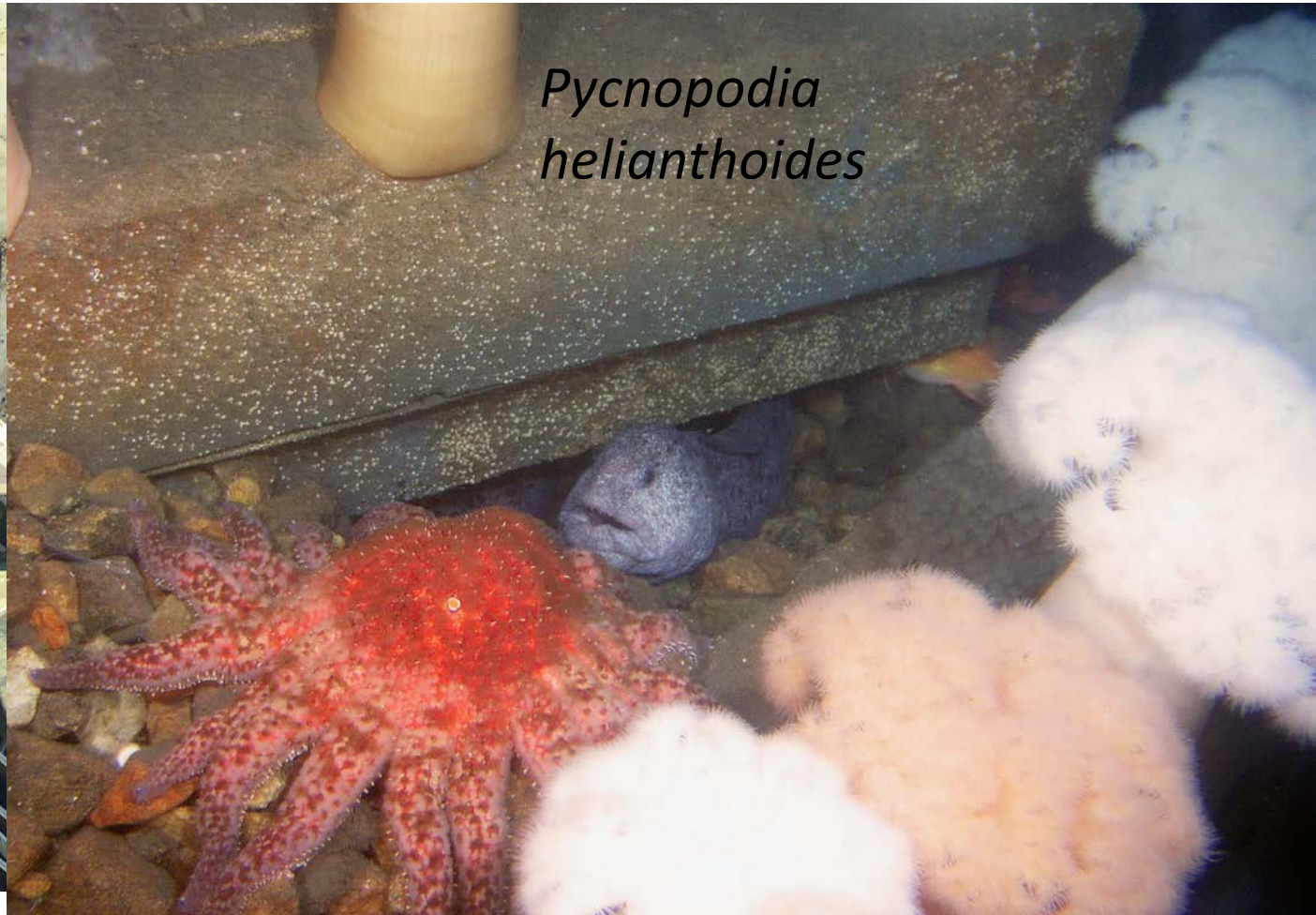
Stylasterias forreri

Maluf: 29-532m

Stylasterias forreri



Both sampled at approx 100m;
See SCAMIT NL Vol 13 no. 4 for a discussion of differences





Hippasteria phrygiana
(=*H. spinosa*); Maluf 49-1170m
See D. Cadien's hand-out on
separating from *H. californica*.

Another "puffy/spiny" sea star
encountered in a past Bight project
is *Poraniopsis inflata*. (See Gotschall
1994)

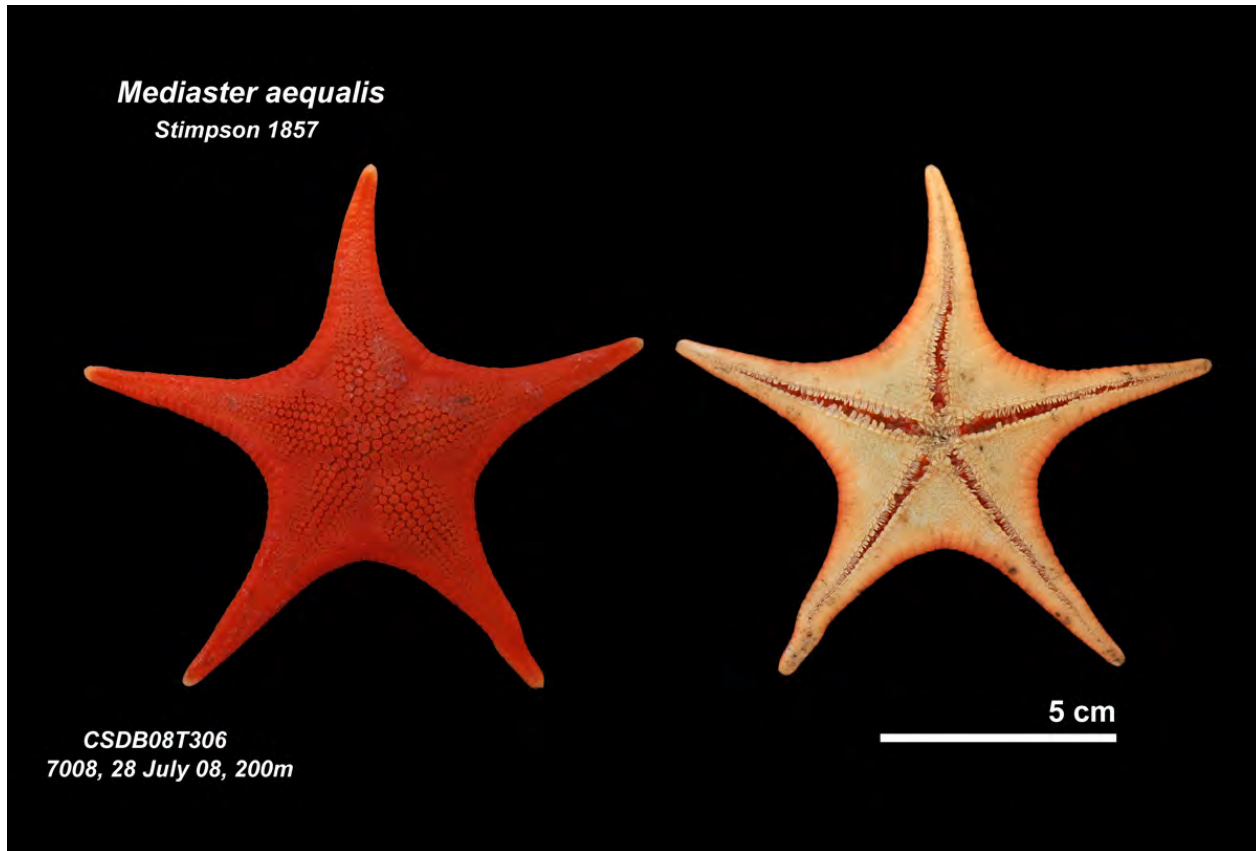


Odontaster crassus
Fisher 1905

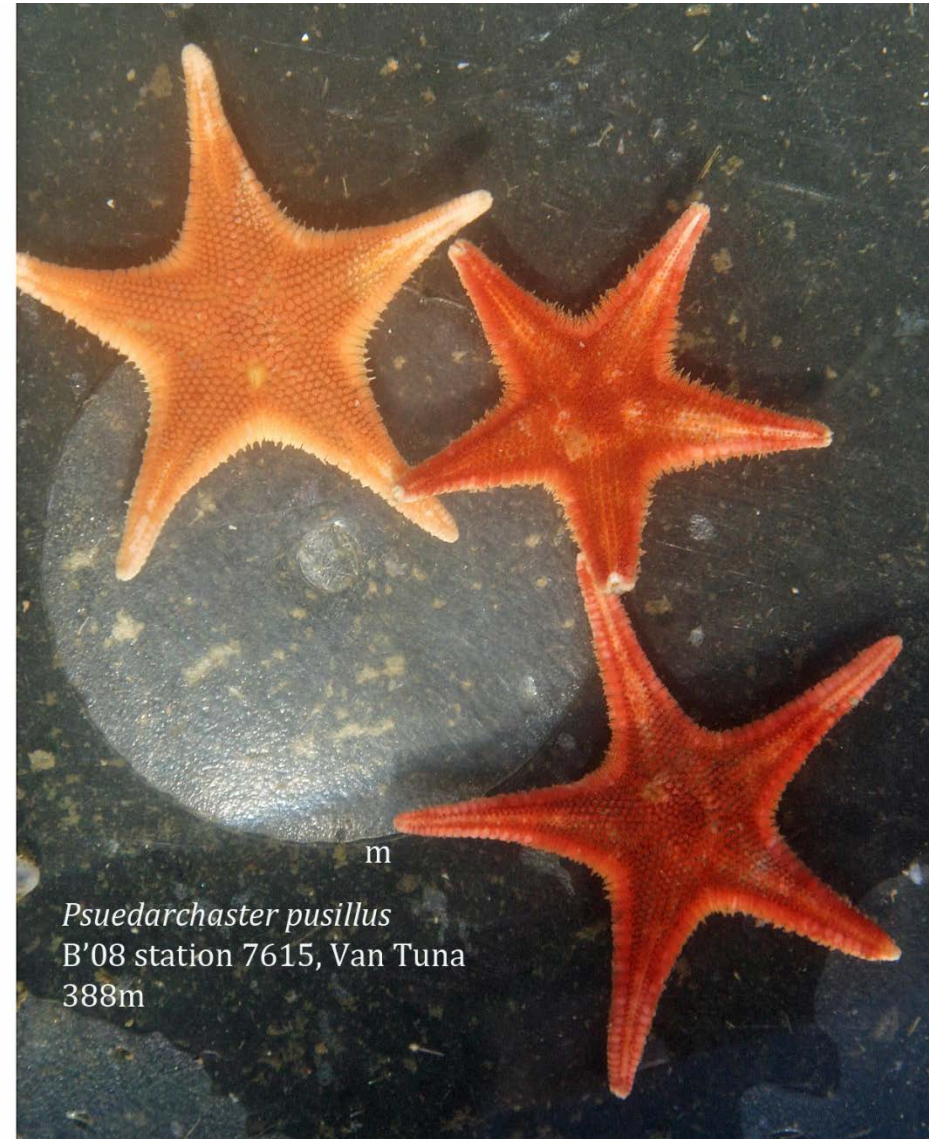
Distinguished by
large, apical “tooth”
on each jaw
Maluf: 27-595m

CSDB08T320
7081, 6 Aug 08, 200m

If not careful, easy to confuse *Mediaster aequalis* and *Pseudarchaster pusillus* (found in large abundances in approx. 400m off Pt. Conception)



Maluf: 0-481m



Maluf: 99-1326m



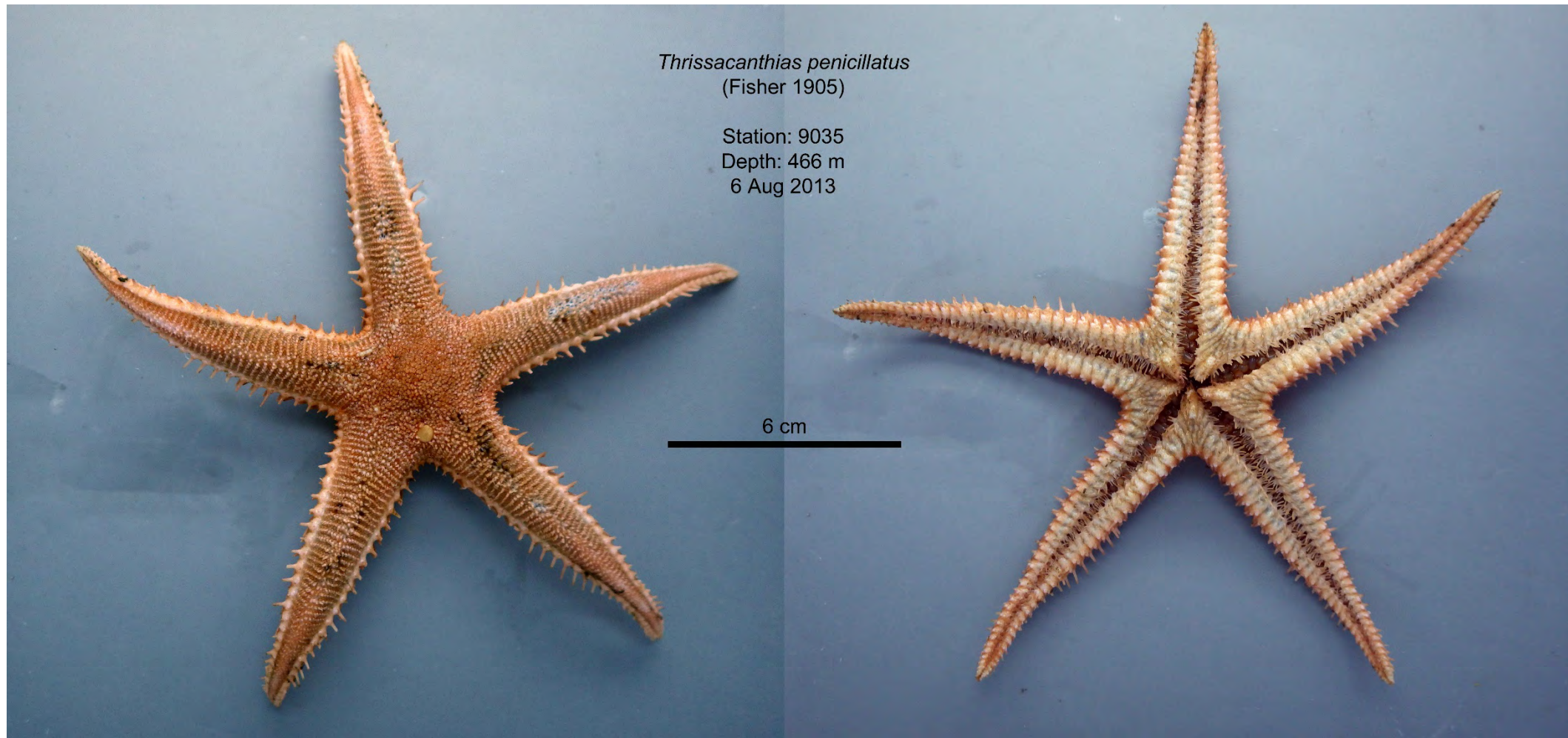
Ceraster leptoceramus

Deeper water – Maluf: 366-1811m
Need to look at furrow spines to
separate from *Ceraster patagonicus*

Myxoderma platyacanthum



Deep water animal
Maluf: 256-768m
Rows of pedicellaria on
dorsal surface of the
arms



Maluf: 55-1503m, we usually see it ≥ 200 m

Mollusca

Dendronotus venustus (color variant)



Marine Biology Laboratory
Los Angeles County Sanitation Districts
Trawl Voucher

Date : 12 Aug 13

Station : 9245

Species : *Triopha maculata*

Formaldehy



BIGHT 9B
SAN DIEGO BAY
STA. 2242
5 meters depth
13 Aug. 98



Musculista senhousia

Bay species. Considered
“infauna” and therefore not
recordable for trawl data

2436

8/14/98



Arcularia tiarula

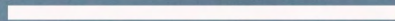
Bay species; Now *Nassarius tiarula*

Philine alba
Mattox 1958

Station: 9011
Depth: 184 m
22 Jul 2013



2 cm



Philine auriformis
SD-17, 32m



Note the vertical line in the cephalic shield; additionally this species is more elongate than *P. alba*



Octopus bimaculatus
SBOO 2 Oct 2012
30m

Octopus rubescens
Berry 1953

Station: 9006
Depth: 14 m
16 Jul 2013



Octopus rubescens
vs
*Octopus veligero**

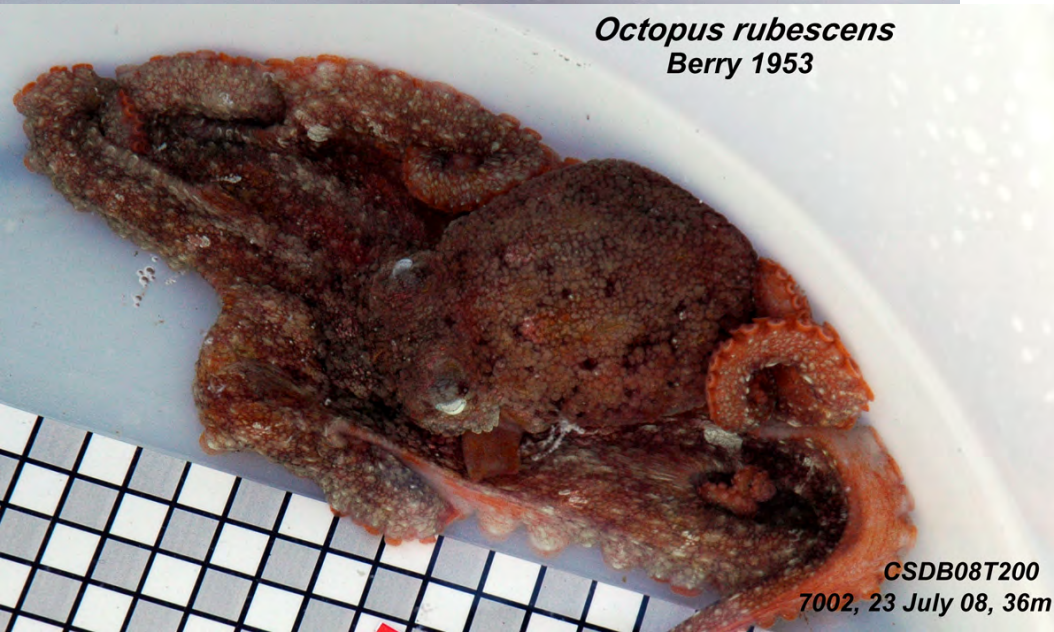
**O. veligero* - usually seen during, or shortly after, El Niño events.



Octopus veligero
Berry 1953

Station: 9111
Depth: 84 m
13 Aug 2013

Octopus rubescens
Berry 1953



CSDB08T200
7002, 23 July 08, 36m

Octopus veligero



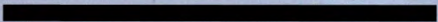


Octopus californicus
Berry 1911

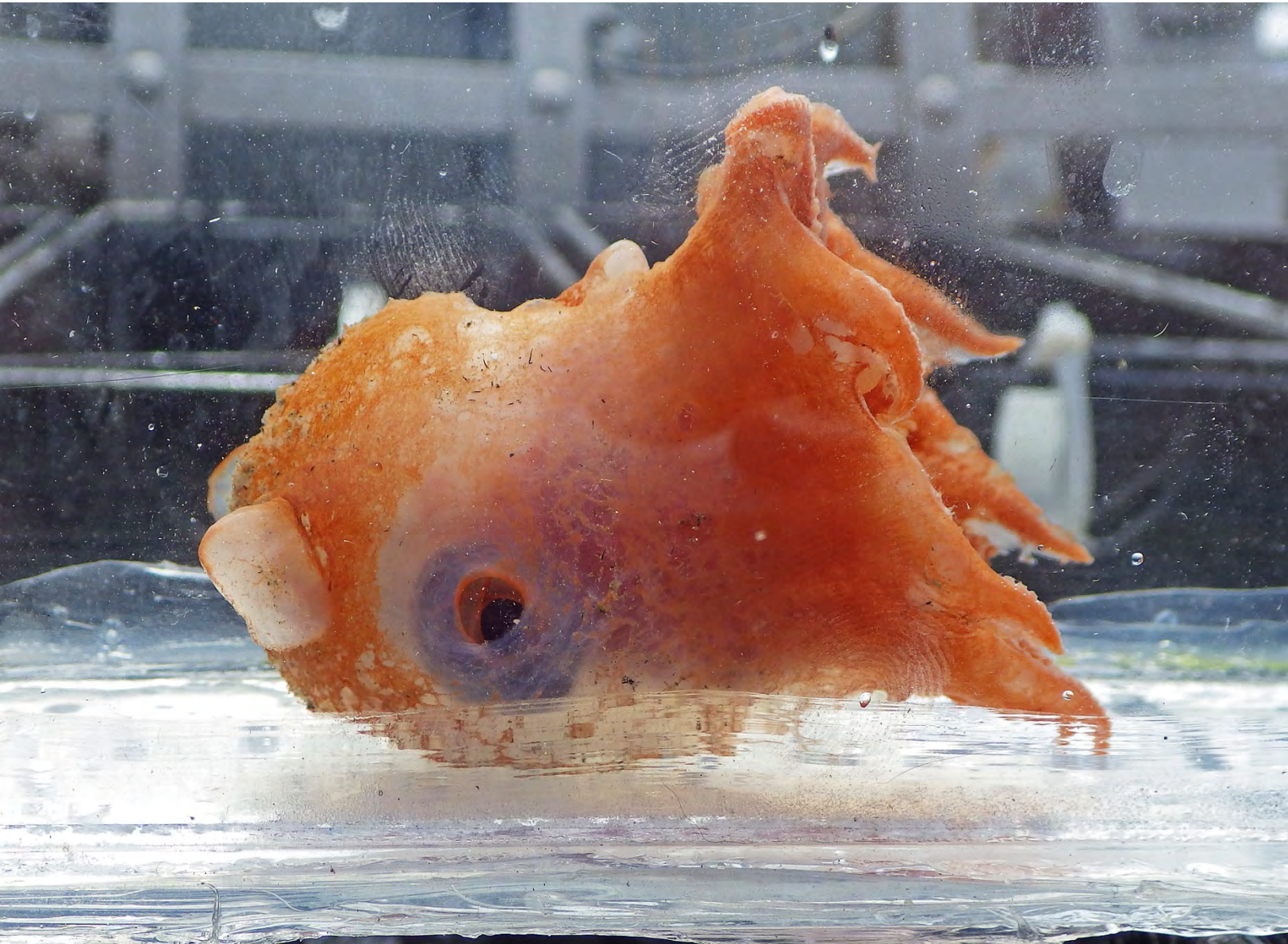
Station: 9026
Depth: 377 m
1 Aug 2013

Usually seen $\geq 200\text{m}$
Stellate granules beneath the
skin, as well as
proportionately very large
eyes, are diagnostic

5 cm



Opisthoteuthis sp A
Approx 400m



MISCELLANEOUS PHYLA

SD-19, Jan '11, 30m

Aphrodita armifera

Animal is approx 9cm

Note the large, brassy notosetae that extend almost across the dorsum



Actinaria sp SD1
SD Bay, 4m, B'98



Any guesses?



4 cm

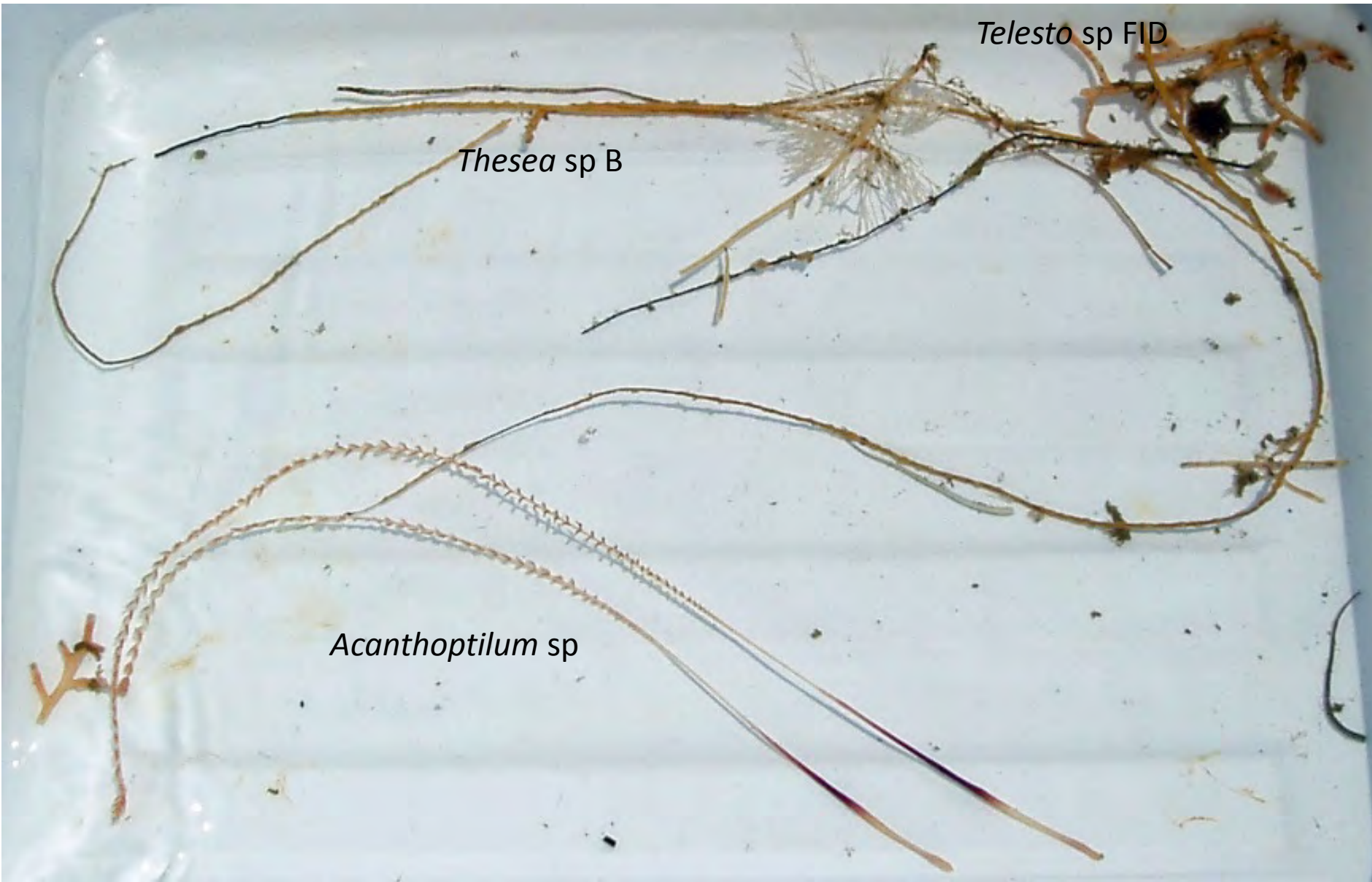
Renilla koellikeri
Pfeffer 1886

Station: 9005
Depth: 18 m
16 Jul 2013



Bight 2013 Trawl
Sta. 9131
22AUG2013
78 m
OCSD#365.5

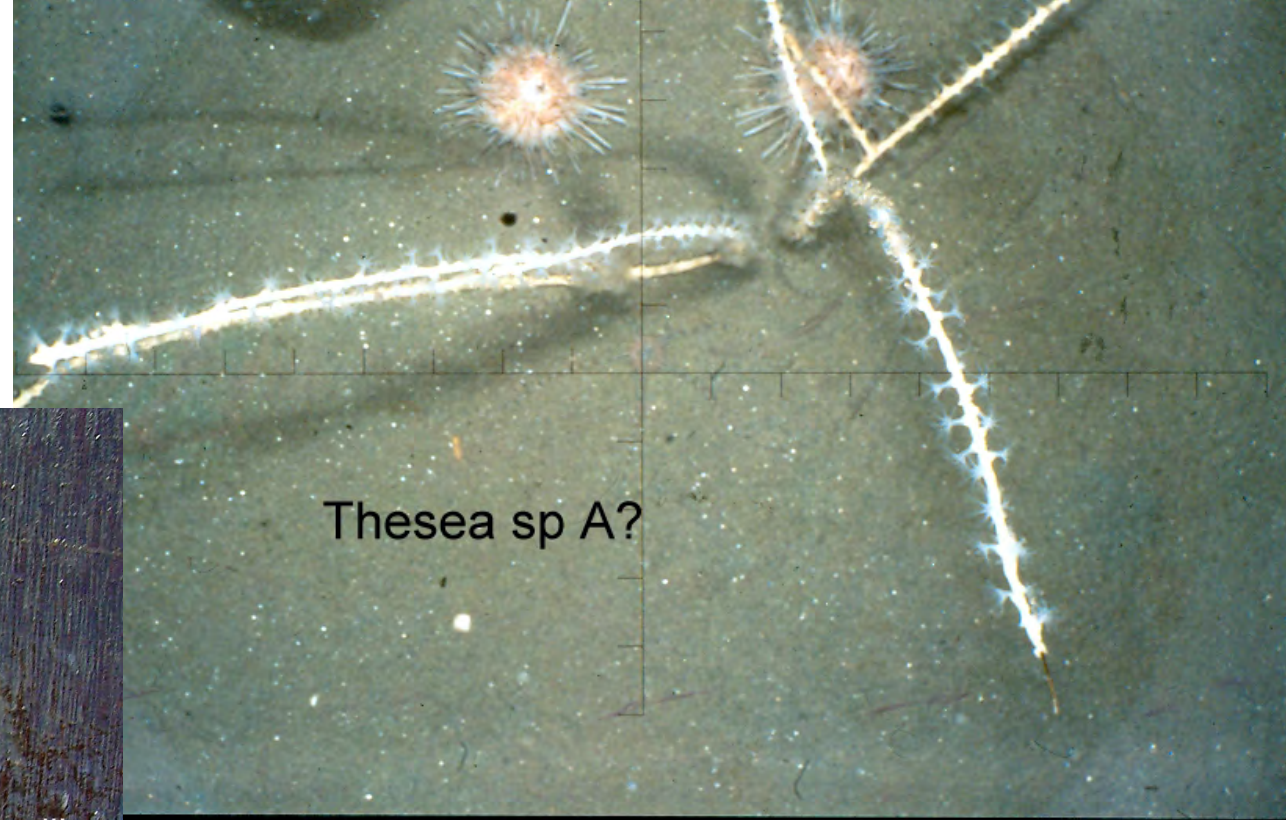
Savalia lucifica
(Cutress C.E. & Pequenat W.E. 1960)



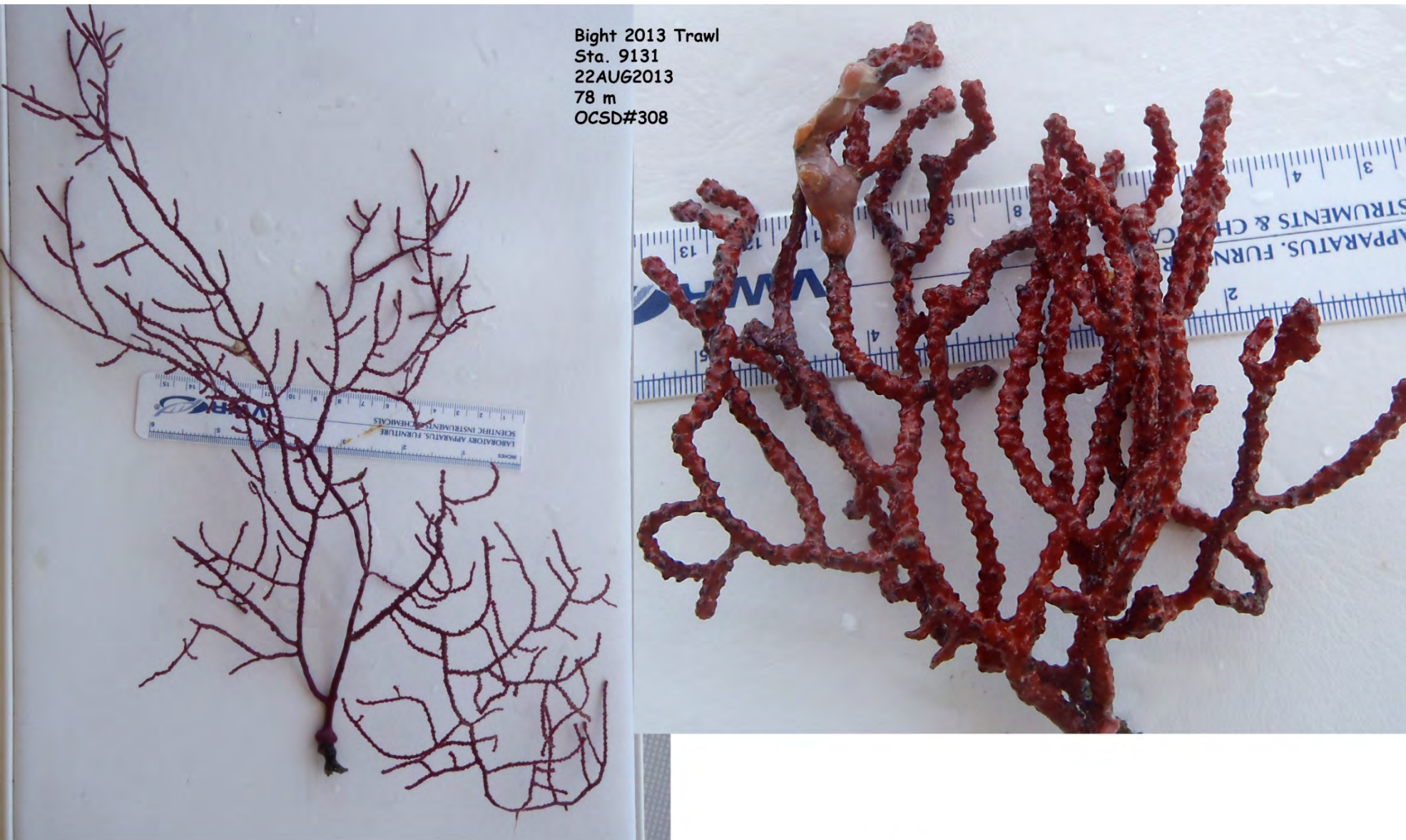
Can you name the 3 “species” seen here?

- *Acanthoptilum* sp
- *Thesea* sp B
- *Telesto* sp (see MMS Atlas Vol 3. The Cnidaria, to speciate *Telesto* spp)

See SCAMIT NL Vol 32 no 4 for a discussion of *Heterogorgia*.



Bight 2013 Trawl
Sta. 9131
22AUG2013
78 m
OCSD#308



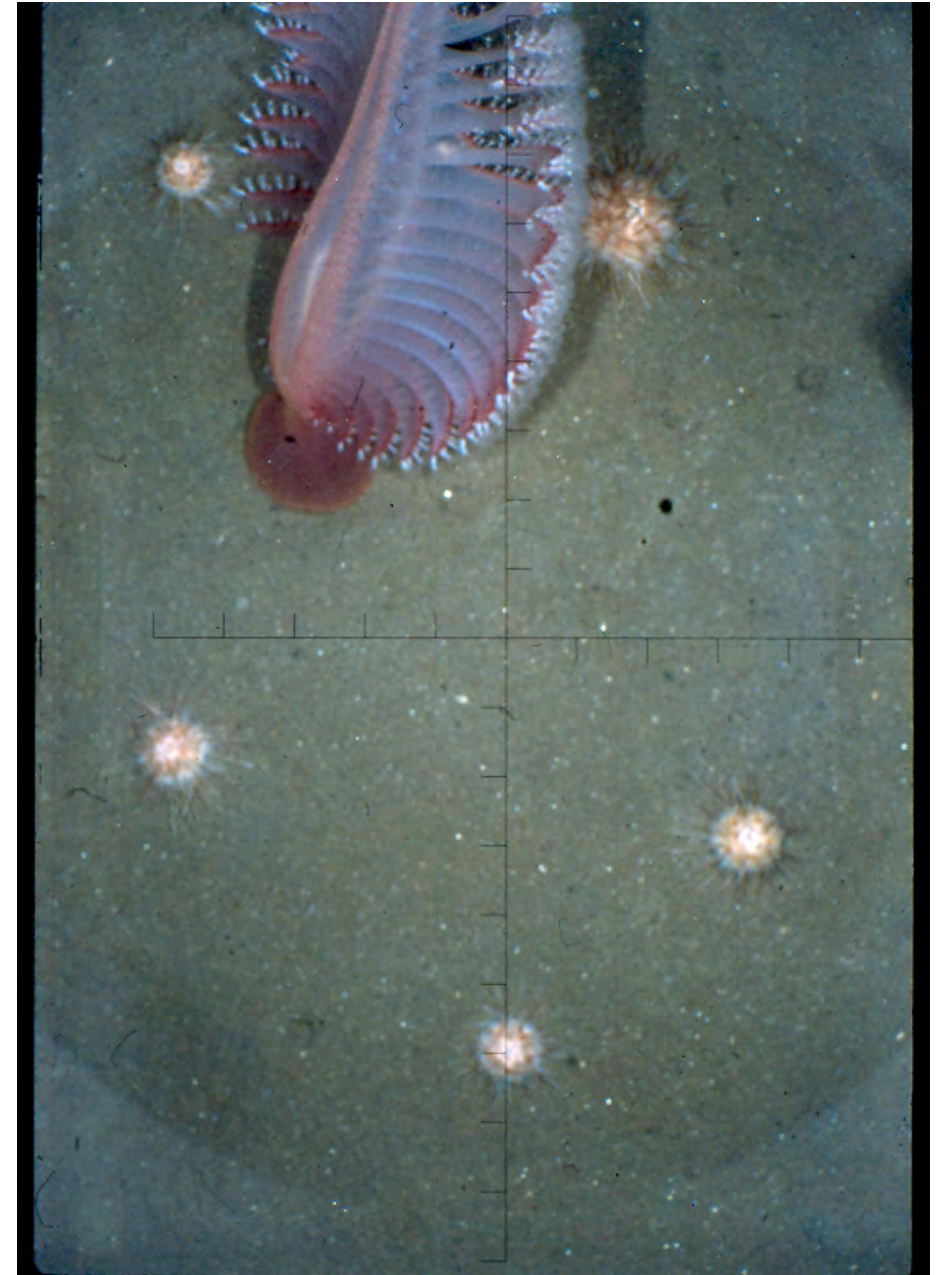
Literature to use for
Gorgonian sea fans in the
field – Gotschall 1994
If in doubt of ID take a
piece back for spicule prep

Eugorgia rubens Verrill 1868

Ptilosarcus gurneyi
LACSD B'13 intercal trawls
28 March 2013, 100m



Depth range: usually around 100m for SCB



Stephanauge sp A



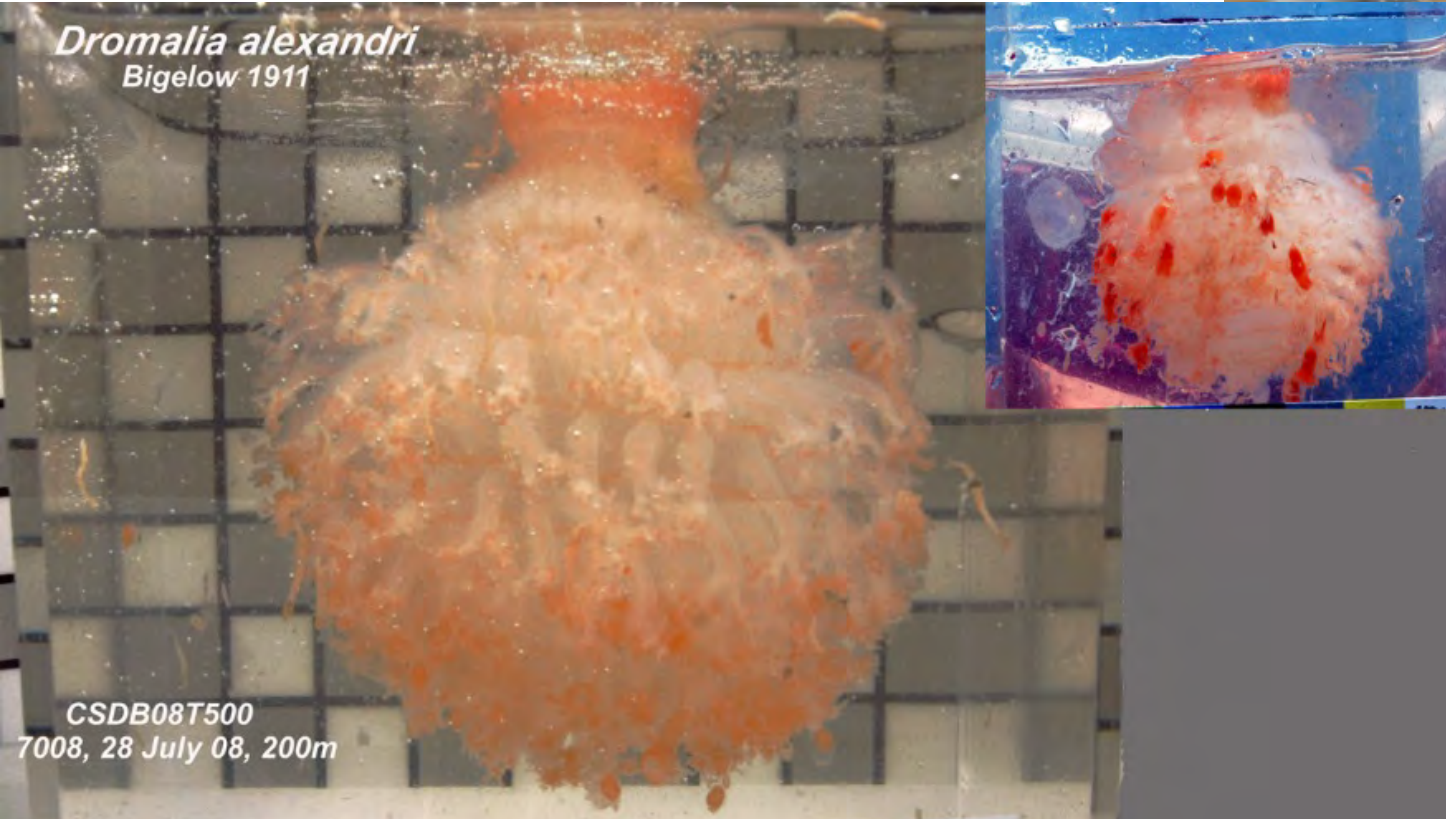
Depth range: unsure,
but never seen
shallower than 150m

Dromalia alexandri
B'13 Intercal trawls LACSD

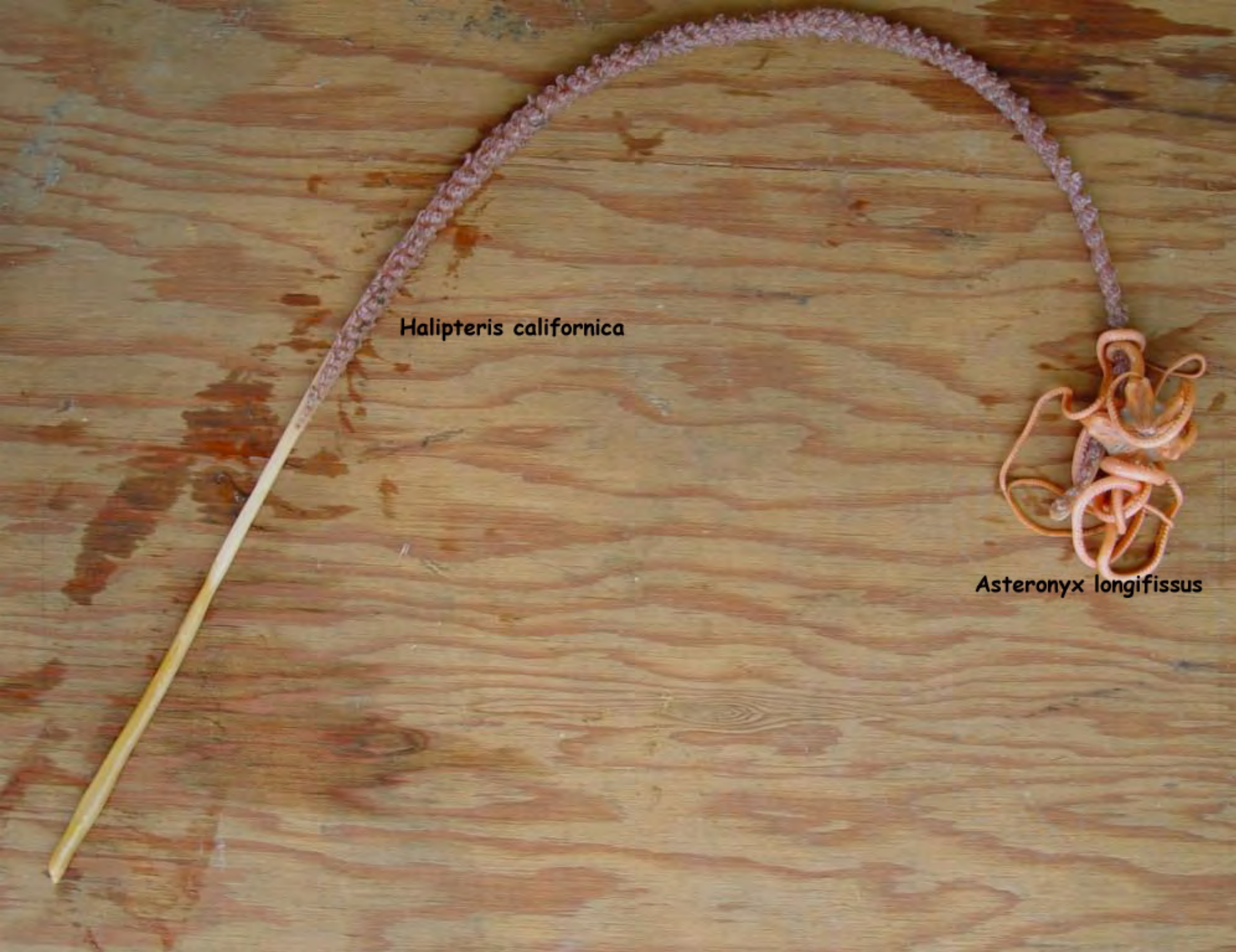
Depth range: 200m+



Dromalia alexandri
Bigelow 1911



CSDB08T500
7008, 28 July 08, 200m



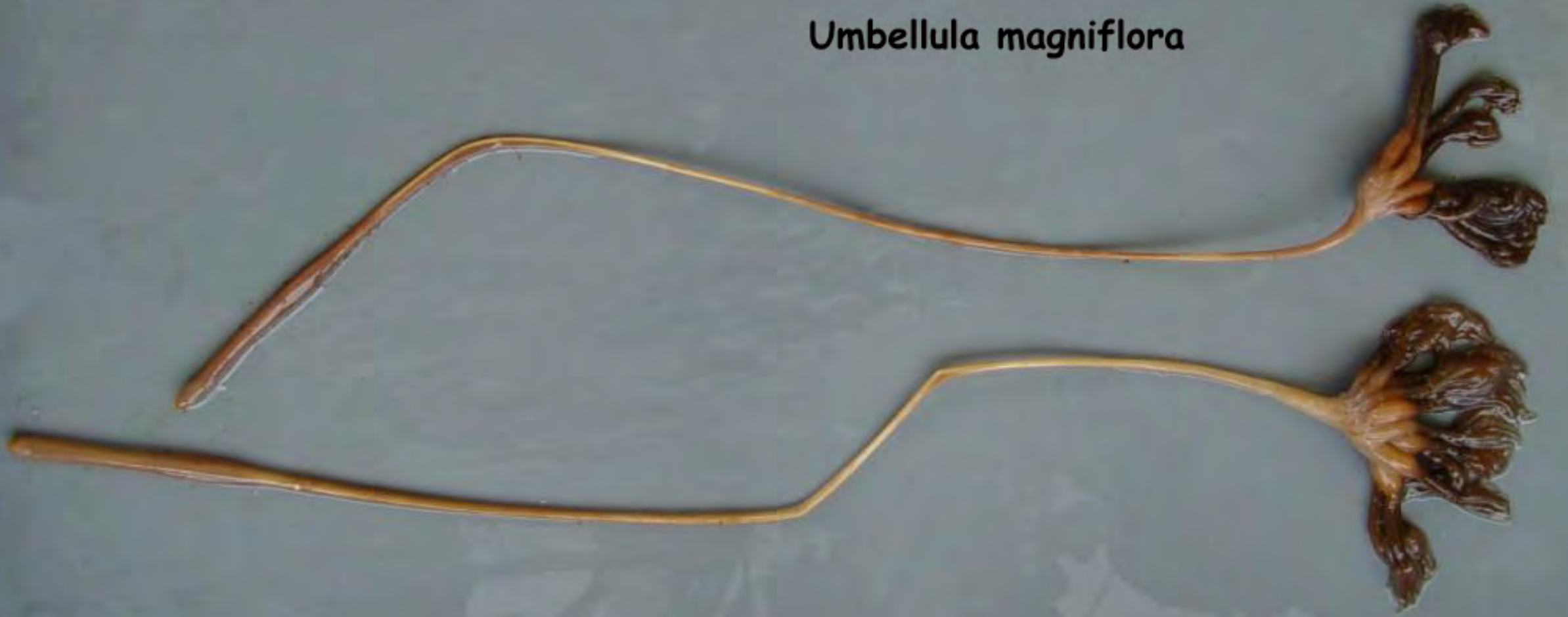
Halipteris californica

Asteronyx longifissus

Depth range: 300 -2000m

Depth range: usually 500m+

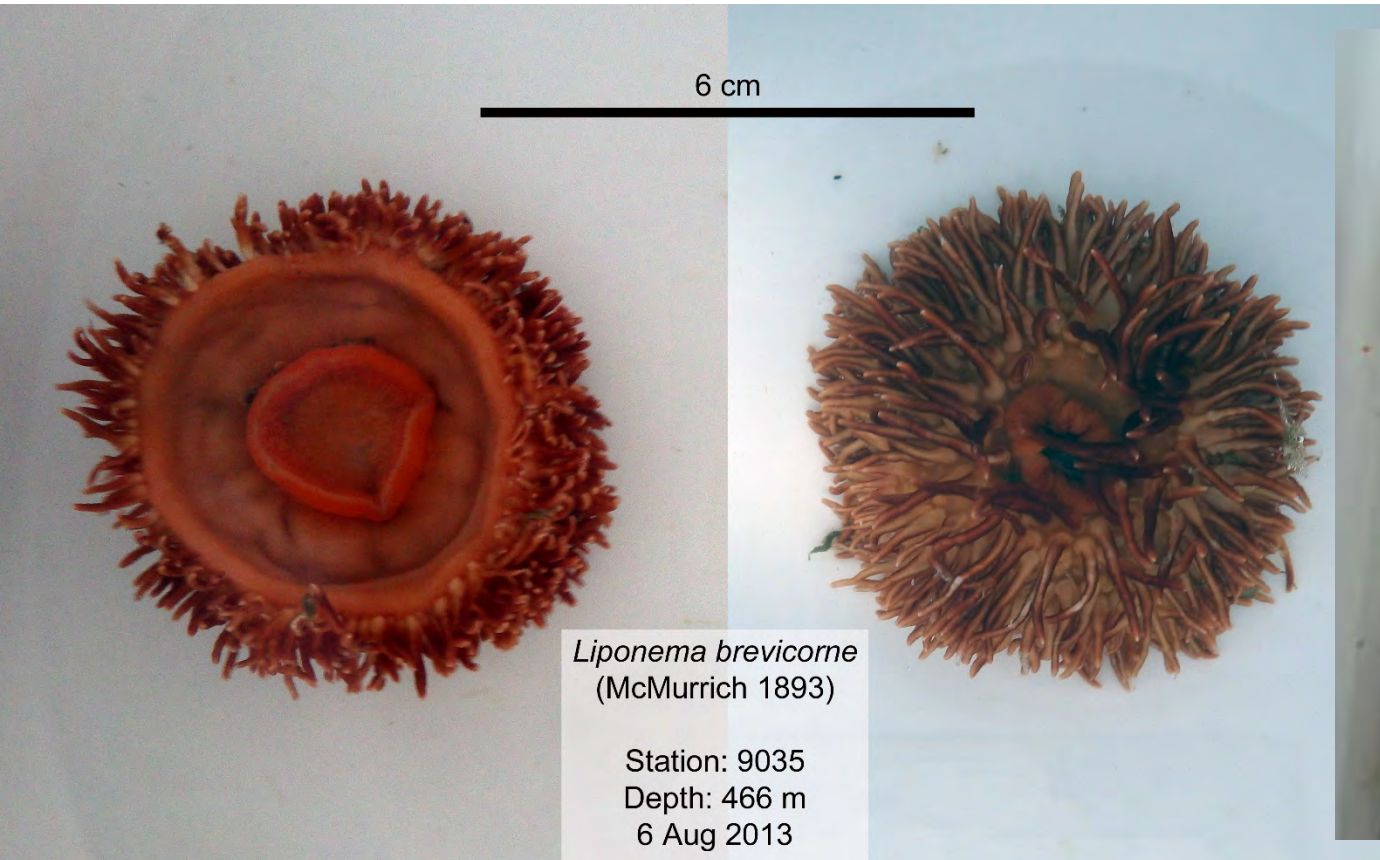
Umbellula magniflora



Determined to be *Urticina columbiana*



Liponema brevicorne





6 cm

Hormathia digitata
(Müller 1776)

Station: 9035
Depth: 466 m
6 Aug 2013

SPONGES



Porifera
sp SD 4
from SD Bay
B'98

Very common in
SD bay; covered
the bottom;
spicule
examination
revealed it to be a
species of
Suberites

Stick sponge of LACSD



As of yet, still
not identified

Aphrocallistes vastus



Deep water.... 300m+

Aphorme horrida
B'08, CSD



Depth range
unsure, but this
specimen collected
at 420m

JUST SAY NO....

