

Copy to Calif. Acad. XII:12:44

Sta. No. 44-28 Orig. No.

Locality: California: Crown Point, Mission Bay, San Diego, about and just NE of base of Causeway  
 Lat. 32° 46.7' N, Long. 117° 14.1' W (U.S.G. & G.S. Chart 5101, 1933)  
 Water: salt, rather muddy  
 Vegetation: in and near thin to thick *Zostera* beds  
 Bottom: sand to mud, firm to soft Temp.:  
 Shore: muddy sand beach Current: slight  
 Distance from shore: to 50 ft Tide: low  
 Depth of capture: Depth of water: to 4 ft.  
 Method of capture: 5x25' Baird seine + 4x6' C.S. seine  
 Collected by: C.L. & L.C. Hubbs, E.M. Kampa & Martin Johnson Date: XI:28:1944  
 Orig. preserv.: 109% form. + borax Time: 7-6 P.M.

Bulk of collection sand. (part time)

27. Fundulus p. parvipinnis: 88 hl. g. - ad.  
Calif. Acad. 11404

35. Paralabrax clathratus: 26 yf. [+ several to  
C.A.S. 11417 public aquarium]. 30-69 mm.

Paralabrax nebulifer: 2 yf. + 1 yr.  
Yf. with 2 blackish bands with a  
row of close-set red-brown blotches in 1 file  
between, cheeks spotted with red  
brown. 40, 47 & 140 mm.

G.A.S. 11410

40. Atherinops affinis littoralis: 2 qt. sample  
(full), yf. - subad., mostly yf., some quite yf.  
(122 spec 20-69 mm sent to Garth Murphy)

47. micrometrus minimus

L.	Sex	D <sub>1</sub>	D <sub>2</sub>	A <sub>1</sub>	A <sub>2</sub>	C/A
77	♀	9	15	3	18	14
86	♀	9	14	3	16	14
48	♀	8	15	3	22	14
47	♀	9	14	3	22	14
45	♀	9	15	3	22	14
40	♂	9	14	3	21	14

To Calif. Acad. 11411  
Copied for Samp. 47 file

55. Leptocottus armatus australis :

D	D <sub>2</sub>	A	P <sub>1</sub>	P <sub>2</sub>
7	15	14	18-18	I, 4-I, 4
7	15	14	19-19	"
7	15	14	19-19	"

C.A.S. 11406

counts in group 55 file

57. Syngnathus californicus leptorhynchus

1 - 2 quart sample saved at SJO

Syngnathus c. californicus : 1 hl. yr.  
green shore

D.	Rings	Total	St.L.	H.L.	Sn.L.	H.D.	Sn D.
46	21+47=68	114	125.0	15.94	8.54	3.36	1.66

C.A.S. 11428

copied for group 57 file

Syngnathus auliscus

D.	Rings	Total	St.L.	H.L.	Sn.L.	H.D.	Sn D.
27	15+37=52	79	79.5	8.84	3.73	2.46	1.06

C.A.S. 11429

copied for group 57 file

59. Gnietula y-canda : 23 yg. - ad., 17-43 mm.

C.A.S. 11418

One from coll. 27 added.

Dyspnus gilberti : 9 hl. yr. - ad., 23-33 mm.

C.A.S. 11419

Clevelandia ios : 15 yg. - ad., 16-32 mm.

C.A.S. 11420

One from coll. 27 added.

3(79-108)

61. Heterostichus rostratus: 7 lg. yg. - bl. gr.,(79-109 mm)  
3 preserved, 4 put in public aquarium.

Seen definitely slenderer than those

taken in algae of tide pools (which form is probably a stray from the kelp beds).

The color pattern and color are remarkably uniform. The colors in life were green with silver stripes. The chief stripe is the one that runs through the pectoral base and a little below the middle of the sides, and renders the muzzle sharply bicolored. Between this and the A. fin is a narrower stripe, fading out or disrupted posteriorly. A broad dorso-lateral stripe running from eye to soft dorsal contains more of the green ground color than do the other stripes. Between the median and dorso-lateral stripes there is a narrow more or less disrupted stripe. Running from the D. fin to the tip of the mandible is very conspicuous silvery stripe which in life often shows a chalky silver-blue reflection.

In the aquarium the green color faded considerably and in certain lights showed considerable golden-brown, particularly in one specimen. For at least 2 weeks however the color did not nearly match that of specimens from the kelp (only 1 adult alive at this particular time)

The four red grass specimens showed

I, 3-I, 3  
 13-13  
 33 34 33  
 2 2 2  
 12 13 12  
 37 37 37

Counts Copied for Summary, 61 file

considerable tendency to school together. They were very seldom seen in a horizontal position, much more often with the head down or up, at an angle approaching the vertical.

Swimming movements were very graceful, and bodies very flexible. One specimen was seen several times to twist itself into an ~~the~~<sup>oval</sup> shape while it nibbled its own tail ~~fin~~. Contrasting strongly with the

specimens of *Eubronia e. elegans* in the same tank, these *Heterostichus* specimens were never seen to hide in the crevices of the large stones, <sup>nor to lie on the bottom</sup>. At times we might rest sub-vertically vertically in a corner of the tank or against a wall.

Compared with one specimen from 144-31 the whole integument is more delicate, less leathery, and the fin rays seem to be slenderer. See back, next sheet.

64. *Paralichthys californicus* ~~maculatus~~: 20 spec. preserved  
 13 sinistral, 7 dextral. One specimen put in aquarium where there are now 3 others which have grown very rapidly from very small fish. 2 of the 4 ~~live~~ live fish two are dextral and 2 sinistral (1 sinistral is the new fish)

Eyes.	Sx. L.	D.	A.	C.
L	222	63 + 7* = 70	46 + 7* = 53	15
L	153	67 + 6 = 73	48 + 6 = 54	15
L	119	63 + 6 = 69	46 + 7 = 53	15
L	110	68 + 6 = 74	48 + 6 = 54	15

\* Branched copied to group 64 file

spec. coll. by  
 M. L. S. Dec.  
 11:19:44  
 added  
 1/1/44

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Paralichthys californicus (cm.)

Eyes	St. L.	D.	A.	C
L	101	64+9=73	44+11=55-	
L	106	61+8=69	45+9=54	15
L	103	69+6=75	50+6=56	15
L	96	67+4=71	49+5=54	15
L	94	67+7=74	47+9=56	15
L	81	62+6=68	45+7=52	15
L	71	65+7=72	48+6=54	15
L	57	65+3=68	47+5=52	15
L	25	70+0=70	52+0=52	-
R	98	63+5=68	46+6=52	15
R	108	63+5=68	48+6=54	15
R	98	70+5=75	52+4=56	15
R	52	64+4=68	48+4=52	15
R	42	68+0=68	51+0=51	15
R	28	69+0=69	53+0=53	-
R	24	72+0=72	54+0=54	-

C.A.S. 11397

Hypsopsetta guttulata guttulata : 6 h. gr.  
96-142 mm.

R	71+3=74	49+4=53	16
R	68+1=69	50+1=51	15
R	68+4=72	50+3=53	15
R	64+2=66	45+3=48	15
R	67+1=68	48+1=49	15
R	69+4=73	48+3=51	15

C.A.S. 11401 (copied for group 64 file)

Symphurus atricardus : 15 h. gr. - ad.,  
90-112 mm all sinistral.

Plus several to public aquarium.  
C.A.S. 11405

Some with posterior part of vertical  
fins dusky (but not black) except for a  
pale edge, widening ~~posteriorly~~  
posteriorly.

Scales 103-107 in 3

D+C+A in 3:

$$97+12+78=187$$

$$94+13+77=184$$

$$95+12+79=186$$

Last ray of D.F.C. counted as double

Heterostichus rostratus (con.)

During Dec. green color of aquarium  
specimens faded and changed to  
bronze. By <sup>early</sup> Jan. one half grown had  
fed well and became similar to fully specimens  
in form. ~~The~~ The silver band had  
faded but did not disappear. Still later  
at (Jan. 13) it had turned green again.

On this date it was observed <sup>at</sup> near  
the surface with one pelvic <sup>definitely</sup> hooked around  
the slender end of a small starfish. Very  
likely this is often done in kelp and eel grass.

On Jan. 1 the smallest fish, now  
emaciated, had turned to a tan brown,  
had lost all but remnants of the  
silver band & was definitely crossed  
by zigzag dark bars. The half-grown  
also <sup>showed</sup> such bars but less  
distinctly.

Copied for  
my 64 file