

A-6

State or County: Calif. Field No. H50-226
 County: San Diego Map: _____, 1_____
 Locality: South of Pt. Loma, off Coronado & Imperial
beaches
 Lat. _____ N, Long. _____ W.
 Water: Salt, clear.
 Vegetation: Same macrocystis & red algae, not present
in every haul.
 Bottom: Fine sand.
 Cover: _____ Temp.: _____
 Shore: sand beach Current: _____
 Dist. offshore: 1-3 miles Stream width: _____
 Depth of capture: bottom Depth of water: 7-25 f.
 Collected by: F. Taylor & A. Allanson "Pauline T".
 Tide: _____ Date: 25 VIII: 50
 Method of capture: 50 ft. Otter Trawl.
 Orig. preserv.: 10% form & borax Time: am & p.m.

Weather: Very hazy, making it very
difficult or impossible to pick out
land marks. Sea calm.
Length of haul - A-P 15 min & 20 min.
Approximate position given below for
each haul, together with depths. For
further details see notes at end.

H50-226 A. About 1 mile south of buoy 6
towing south. 10 f.

46 Seriphus politus 1. Described
64 Pseudonichthys coenosus 1

H50-226 B. Towing south, approx-
imately off Coronado hotel. 12 f.

8. Sardinops caerulea 3 ad.
46 Genyremus lineatus minor
Described.

H50-226 C. Towing south, from
south of Coronado Beach hotel.
47 Acyrtogaster aggregatus 120
108 (69-102.5)
(Only 108 found 8 Oct. '62 930)

H50-226 D From opposite Imperial beach
towing west. 20-25 f.

No fish.

H50-226 E Off Imperial beach towing
North. 10 f.

~~Holograptus~~
Aerobatus californicus 1 ad
discarded

(discard) 8. Menegraulis mordax. 87.

42. Palometa simillima 17 (99-112)

46. A Genyonemus lineatus 2 (118-146)

47. Cymatogaster aggregatus. 168 (66-108)

Squid, 2 about 6" long & several
about 1 1/2 - 2 " preserved.

H50-226 F Towing North from East point to
just south of Coronado beach
hotel. 10 f.

8. Menegraulis mordax large ones
1 ad.

35. Paralabrax clathratus 53 (96-120)

42. ~~Petrol~~ Palometa simillima

46. Genyonemus lineatus series
discarded

Seriophus politus large ones
discarded

47. Cymatogaster aggregatus 8

Phanaerodon furcatus 12

64. Parophrys vetulus 1 juv (174) R.T.K.
Feb '59

H50-226 G Towing South from opposite Coronado
Coronado beach hotel. 7-8 f.

8 Menegraulis mordax large ones
discarded

42 ~~Petrol~~ ^{Perrilus} Palometa simillima 5 series discarded
1 preserved (108)

46 Genyonemus lineatus series discarded.

Seriophus politus large ones discarded.

47 Cymatogaster aggregatus series 21 (62-108) 20 (67-154)

Hyperprosopon arpentum 1 ad 5 juv. 20 (152-153)

Phanaerodon furcatus 2 ad 1 juv. (152-153)

64. Paralichthys californicus 1 ad 2 juv. Cancer crab &
red algae on net.

Notes on Otter Trawl Trial

Aug 25, 1950

Gear: Net measures 47 ft around lead line. Webbing, with exception of cod end $1\frac{1}{4}$ " stretched mesh, cod end lined with $\frac{1}{4}$ " mesh bag.
Lead line: $\frac{1}{2}$ wrapped wire rope.
Float line: Floated by 5 glass floats.
Net & boards patterned after Pacific Biological Station Experimental net. This net differs in that it is 47 ft instead of 36 ft across wings. This difference is attributed to an error in hanging net.
Distance net to boards 12 fathoms ($\frac{3}{4}$ " manilla rope).
Distance boards to end of builde 20 fathoms ($\frac{3}{8}$ " 6x19 wire cable).

Operation The net was operated from M.V. "Padlina T." This ship is not equipped for otter trawling, but was adopted successfully. The main winch is situated about the middle of the after deck, leaving about 20 feet clear aft of it. The net was towed over the stern by $\frac{3}{8}$ " wire, a 4x4' board was lashed across the stern to act as a choker. The builde was wound directly onto the winch drum. The

necessitated disconnecting the level winch to permit passage of the swivel + shackle joining bridle to towing cable, when hauling or shooting the net. This was found more advantageous than leaving the level winch permanently disconnected.

In hauling - the net was hauled in to the boards by winch with the ship under way, the boards lifted in & the leads & net hauled in by hand. (way off ship). If the catch should prove large, the whip from the main boom is available for ⁱⁿfeeling the net. Similarly, on shooting, net & leads let out by hand, the doors & cable being let out under strain by the winch. Vessel under way throughout operation.

Adjustment of net. Various adjustments were tried.

For haul A - the adjusting rope between upper & wing, was about $3/4$ tight. For hauls B & C it was slightly looser. None of these positions appeared

satisfactory. The boards were working well. Signs of abrasion were noticed on sole rope & also on lead rope. Collets small.

To try to overcome the apparent collapsing of net, the upper leads were shortened 6 ft. This haul (D) was made in deeper water & the net never appeared to reach bottom & in hauling the boards broke surface well behind ship. No fish were taken on this haul.

Following haul D, the upper leads were restored to their original length & the adjusting rope tightened to about $\frac{1}{4}$. This seemed to give satisfactory results as evidenced by the catches made on hauls E-G.

Various lengths of towing cable were tried. In haul A ratio of towing cable length (to start of buckle) to depth was 4:1, in B $3\frac{1}{2}$:1 in C 4:1 in D $4\frac{1}{2}$:1 in E 5:1 in F 5:1 in G 6:1. The best results were obtained with 5:1 in depths of 10+. In depths of

20 f. 4 1/2:1 rates did not allow net to reach bottom - this possibly could have been due to fouling of the boards during shooting however, (they broke water when being hauled in).

The net in its present state appears satisfactory for taking fish that live off the bottom, but not too satisfactory for taking bottom living fish.

This is indicated by the numbers of Pezomachus, Scorpaenidae & Aluconidae taken & by the very few flatfish or rays taken. In this regard it also appeared that the runner of the boards were more polished towards the front, suggesting that possibly the boards were tipped up at the boat tending to raise the net - although considering the distance between net & boards (12 f) a small amount of tipping should not affect the net. The other possibility is that the lead line is

too light. Lead strips
might be wrapped on the
lead line to weigh it
down & ~~not~~ cause it to
dig more into the bottom.

The net as it now stands
might ~~work fairly~~ ~~successfully~~
~~on a rough~~ be operated on
a moderately rough bottom
with greater safety but one
with a heavier lead line.

The ship was unable to slow
down sufficiently & I believe
this may also account for the
net not holding bottom. The
slowest the ship would go was
an estimated $3\frac{1}{2}$ -4 kts. This
speed, considering the small
size & great resistance of the net,
is probably too fast.