

one SIO #

Sta. No. H47-88A, 88B

Locality: Calif: Santa Cruz I., north shore
of Fraser pt. - tide pools: A - 5x15 ft.
B - 3x10 ft.

Lat. 34° 03.66' N.; Long. 119° 55.45' W. (USC & GS chart 5115, 1945)

Water: Clear salt

Vegetation: Coralline algae, Macrocytis and
Egria, etc. Very abundant.

Bottom: Rocky - some sand

Temp.:

Shore: Rocky to low cliff

Current: none

Distance from shore: tide pools about 1 ft.

Tide: low (-0.6 at 11:57)

Depth of capture: 3 ft. max.

Depth of water: 3 feet

Method of capture: Poison (derris root) - thorough

Collected by: Carl L. Hubbs & party E.W. Scripps

Date: 28-10-47

Orig. preserv.: 10% formalin

Time: 1030 - 1200 hrs

Pools with abrupt side walls and
some vertical crevices.

All fish saved

A few algae + invertebrates

Pools about 1 foot above low tide of day

On top of flat reef terrace.

55. Artemia lateralis: 3 ad., 2
from A; 1 from B. more or
less coralline.

~~50(47-52)~~
Oligocottus rubellus: 8 postlarval
to juv. + 59 ad. (7 postlarval to
juv. and 19 ad. from A, 1 juv.
and 4 ad. from B). Juveniles
and 4 ad. from B. Juveniles
vary from green to red, through
a greater range than shown by adults,
67(9-57) over

Postlarval
and juv.
in SIO coll.
fish coll.
Adults,
47-57 mm.

presumably the yg. inhabit the vegetation;
the adults crevice.

13(10.5-65)

55A Oligocottus

~~Dalmanella~~ snyderi: 1 postlarva + 12 ad.

Postlarva
in yg.
fish coll.
820

(1 postlarva + 10 ad. from A; 2 ad.
from B) Of the adults, 2

12 ad. from A. and 1 from B. are very
green. Postlarva has much green-yellow
pigment about head, belly and back.

Clinocottus analis

: 1 yg. + 9

bl.-gr. - ad., all from A. 10(18.5-89)

55B Clinocottus

~~Montezuma~~

reclusae^{us}: 4 yg. - ad. (14.5-67)

yg. in
820 yg.
fish coll.

(2 bl. gr. - ad from A, 1 yg. and 1 ad.
from B) The yg. shows
under the microscope a fine
mixture of green & red.

61. Sibbonia metzi: 19 bl.-gr. - ad.

~~19 bl.-gr. - ad.~~ (7 from A; 12 from
B).

See color notes below

Sibbonia montezumae: 31 bl. gr. -
ad. (13 from A; 18 from B).

See color notes below

Sibbonia elegans: 14 bl.-gr. - ad.
(6 from A, 8 from B).

1047-88

cm.

p. 2.

(not ident.)

Gibbonsia sp. : 27 postlarval
to early juv. (18 from A, 9 from B.)

A Epigaeichthys atros-purpureus : 7 ^{postlarval} _{ad.}
from A, 1 postlarva, 1 very yg.
and 3 hl. gr. ^{111-130 mm.} ad.; from B, 2
very yg. = 7 (17-130)

Postlarva
and yg.
in 550
yg. fish
coll.

3 to Brew; UCLA
11:26: 1948

In the very yg. the light mark
along the D. may be confined
to the margin of the fin or may
cover the entire fin plus an adjacent
strip on the body. There is consistently
a squarish red-brown blotch that
covers most of the C. A series of
blotches on posterior part of A. and
a trace of same on D.

Dissection III:12:57 1 ad. Anal spine & dorsal above anal opening A. Hall.

B Xerxes puerum : 28 postlarva - ad.

Postlarva
and yg.
to 550
fish coll.
From A, 1 postlarva, 2 yg., and
11 hl. gr. to ad.; from B, 14 hl. gr. ad.
25 (34-126) ~~23-126 mm.~~

Color description of Gibbonsia in Laboratory
V: 3:1947, with notes on habitat.

Indications from the local collections
confirm other indications that the species
differ markedly in habitat preference,
and many of the color differences are
(over)

apparently correlated. S. metzi is almost entirely a vegetation species, with a particularly strong preference for kelp. S. montereyensis (or its local representative) appears to be primarily a crevice seeker. Its relative numbers increased in inverse ratio to the amount of vegetation, particularly with the larger adults. S. elegans seems to prefer ~~the~~^a short crop of algae on the rocks. It also seems to take to the short growth of Phyllospadix and a few greenish, banded specimens were taken at stations 88-90. None of the montereyensis series was green-banded, though some that were more or less coralline showed a combination of ~~these~~ stripes and bars. As a whole, the metzi specimens were kelp-colored more or less. None were green striped (altho this phase is developed where eel grass is abundant).

The ~~belly~~ belly in metzi was yellow grading to dull orange. In montereyensis it is more commonly white, pink or gray, with the light color more sharply set off. Except in more uniform red specimens the sides of the belly in elegans bear spots, bars or

reticulations of silver-blue or gray. These are not evident in metzi, and are usually rather faint in montereyensis. # In metzi the base of the C. normally becomes conspicuous light just in advance of a blackish streak. In the 2 other species this mark is usually weak or lacking, though sometimes fairly well developed in montereyensis. As a rule a pair of marginal cream spots is large and conspicuous in metzi. In elegans these spots are typically weak though sometimes prominent, and the ~~the~~ whole fin tends to be more strongly and more ~~seti~~ spots, barred or reticulated. G. montereyensis is variable in these respects. # The 2nd D. usually has smaller "windows" in metzi than in the other species, and these marks usually do not extend to the margin of the fin whereas they usually do so in the other species. # The lower side of the head is usually almost uniform tan or brown in metzi altho. sometimes rather faintly speckled or reticulated with light or dark; - elegans has this area rather boldly marked. G. montereyensis is intermediate.

over.

In S. montereyensis there is often developed a mark that seldom appears in elegans and perhaps never in metzi, namely, a rather prominent light streak extending downward and backward from the eye and boldly bordered with darker.

The bars on the body in metzi, when developed, tend to be narrower and more regular than in the other species.

In metzi the ocelli are lacking or represented by dark spots. In elegans 2 or 3 ocelli are usually well-developed, and the primary one near the head is consistently developed. In the montereyensis type the primary ocellus varies from well-developed to a dark blotch. The one or two posterior ocelli are commonly lacking or absolutely undeveloped, but occasionally the more anterior of the 2 may be developed to about the average condition in elegans.

The coralline color-phase is usual and often bright in the elegans specimens, often developed and rarely bright in montereyensis, scarcely evident in metzi.

~~The~~ The montereyensis specimens

are far too uniform to be regarded as hybrids. Furthermore they are extreme in some characters, thus the 1st. D. spine is relatively higher than in either elegans or metzi. The snout is somewhat more pointed and prominent due to the more protruded muzzle.

The profile of the head is more concave between the snout and the upper lip, and the lower lip anteriorly is more swollen. As a result the mouth region looks more prominent and more puckered.

The 2nd D. is quite as extreme as elegans in paucity of rays and straightness of posterior border, etc., perhaps even more so. The number of D.

spines varies from 34 to 36, ~~versus~~ usually 35, versus 32-34, in elegans.

The anal rays vary from 24-27, usually 25 or 26, versus 22-25, usually 23 or 24 in elegans.

If the collections taken are representative, montereyensis is a smaller species than elegans, much smaller than metzi.

As in the other species of the genus the adult ♂'s are more uniform and darker ^{than the ♀'s} on the lower anterior (over)

parts, and the pelvic fins are
sooty with pink tips, rather than
being coarsely banded with pink
and cream.