

ALBINISM AND AMBICOLORATION IN THE CALIFORNIA HALIBUT (*PARALICHTHYS CALIFORNICUS*)¹

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During the summer of 1956 two unusually pigmented California halibut (*Paralichthys californicus*) were taken by fishermen in southern California waters. These fish were presented to the Department of Fish and Game for examination and study. One of the fish exhibited almost complete albinism and the other was ambicolored (pigmented on both sides).

Although Department personnel previously had never observed an albino California halibut, ambicoloration has been noted upon a number of occasions. The capture of either type of variant always arouses considerable interest among the sportfishing enthusiasts in the immediate vicinity and the fish is usually sent to the Department along with a number of questions regarding its rarity, edibility, ancestry, and general state of health.

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TABLE 1
Counts and Measurements Made Upon Three California Halibut

	Albino "right-handed"	Ambicolored "left-handed"	Typical "left-handed"
Measurements:*			
Standard length.....	282	320	370
Total length (to upper lobe of caudal).....	120.9	121.2	120.5
Head length.....	27.3	28.4	26.8
Fleshy orbit (lower eye).....	4.4	4.0	3.8
Fleshy interorbital width.....	2.8	2.9	
Snout length (to lower eye).....	6.4	6.6	
Maxillary length.....	13.1	12.0	11.9
Body width (greatest).....	39.5	42.2	37.0
Caudal peduncle width.....	9.5	10.3	8.6
Pectoral fin length (eyed side).....	13.1	13.1	11.9
Ventral fin length (eyed side).....	7.8	6.9	7.0
Snout to dorsal insertion.....	6.5	10.0	
Snout to anal insertion.....	32.7	34.0	
Snout to ventral insertion.....	25.7	24.6	
Snout to pectoral insertion.....	26.6	26.9	
Counts:			
Dorsal rays.....	69	71	68
Anal rays.....	53	54	54
Pectoral rays.....	1, 10	1, 10	1, 10
Gill rakers.....	7+20	9+19	9+22

* Standard length is given in millimeters; all other measurements are presented as percentages of standard length.

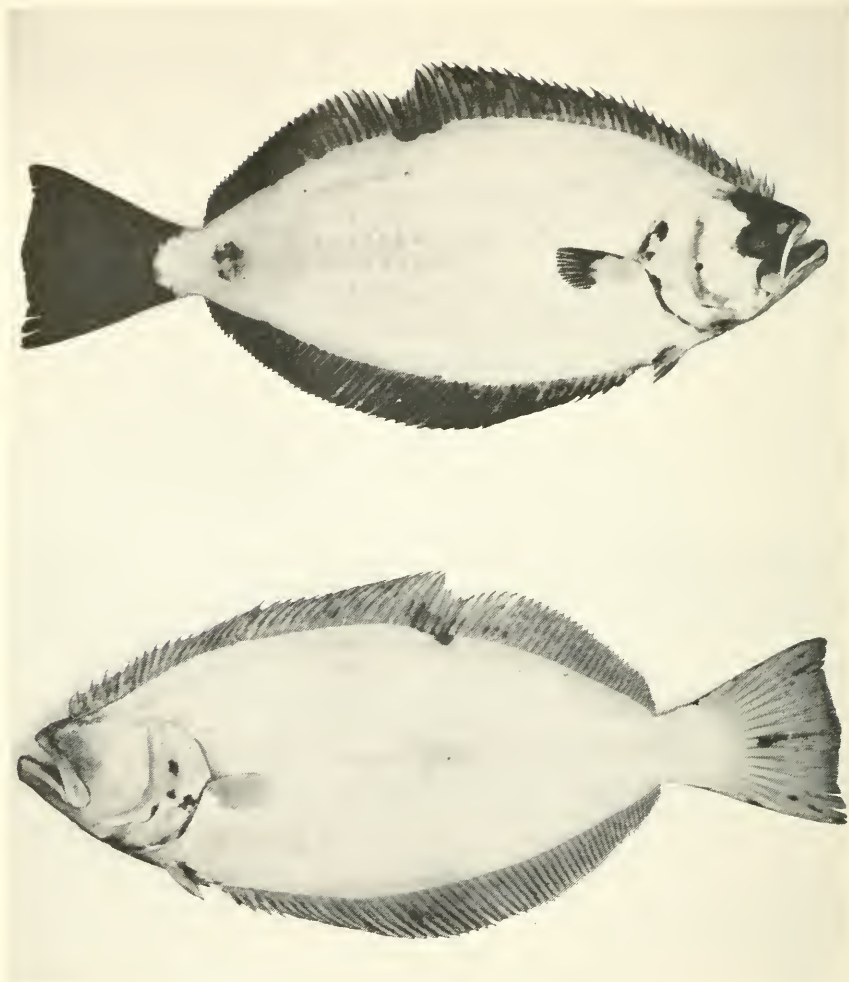


FIGURE 1. Eyed side (top) and blind side (bottom) of albino California halibut, 282 mm., standard length, taken at Seal Beach, June 24, 1956. Photograph by Jack Schatt.

The albino specimen, a female with eyes on the right side (Figure 1), was taken on June 24, 1956, from the pier at Seal Beach by Mrs. Margaret Virzi of that city, and was given to "Tommy's Bait and Tackle" shop to be forwarded to the California State Fisheries Laboratory, Terminal Island. The bulk of the body was completely unpigmented. There was, however, some pigment on the snout, pectoral fins, and tail on the eyed side. In addition, the caudal peduncle was normally pigmented and the dorsal and anal fins were piebald (spotted) on both sides. This is the first albino halibut of this species ever observed by personnel of the California Department of Fish and Game. According to Norman (1934) and Ginsburg (1952), varying degrees of albinism are not uncommon among flatfishes. To our knowledge,

however, the condition has not been reported previously for the genus *Paralichthys*. Although the fish appeared normal in all other respects, counts and measurements were taken (Table 1).

Just three weeks later, on July 10, 1956, the completely ambicolored individual was taken. This fish, a female with eyes on the left side, was caught on hook and line by Frank Remely, Jr., at the Balboa Pavilion on Newport Bay, California. It was forwarded to the California State Fisheries Laboratory at Terminal Island by the Balboa Angling Club. As in other flatfish in which complete or nearly complete ambicoloration has been observed, several deviations from normal symmetry were noted. The most outstanding deviations were the incomplete migration



FIGURE 2. Eyed side (top) and blind side (bottom) of ambicolored California halibut, 320 mm., standard length, taken at Balboa Pavilion. Note fleshy anterior projection of dorsal fin over upper eye, which has failed to migrate completely across head to left side. Photograph by Jack Schott.

of the upper or right eye and an anterior fleshy hook or lobe formed by the dorsal fin (Figure 2). Counts and measurements were made on the ambicolored specimen for comparison with those of the albino fish and a "left-eyed" halibut with normal or typical coloration (Table 1).

REFERENCES

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Norman, J. R.

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