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**MILKFISH, *CHANOS CHANOS* (FORSSKÅL, 1775), TAKEN  
IN SOUTHERN CALIFORNIA ADDS NEW FAMILY  
(CHANIDAE) TO THE CALIFORNIA MARINE FAUNA**

Six milkfish, *Chanos chanos*, taken in 1982 and 1983 establish the presence of the family Chanidae in California.

On 22 March 1982 fisherman Luigi San Filippo caught an unusual fish while gill netting for striped mullet, *Mugil cephalus*, with a 3½-inch mesh net, in the warm water discharge plume of a south San Diego Bay power plant (lat 32° 36' 30" N, long 117° 06' 30" W). One of us (JMD) was contacted and identified the fish as a 925 mm total length (TL), 680 mm standard length (SL), 5.6 kg, milkfish (Figure 1). The specimen is deposited at Scripps Institution of Oceanography, Division of Marine Vertebrates (SIO 82-22).

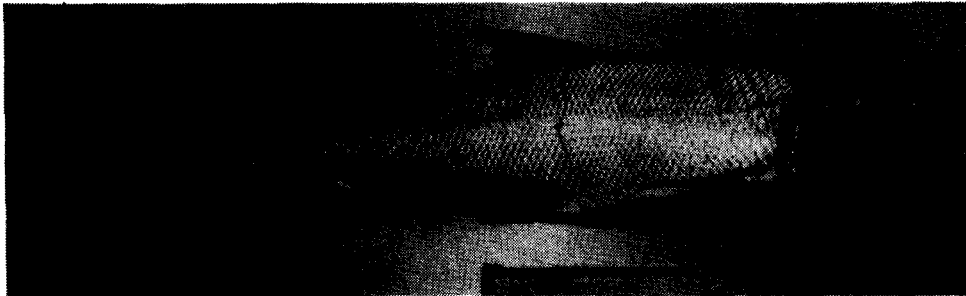


FIGURE 1. *Chanos chanos* taken by Luigi San Filippo in south San Diego Bay, March 22, 1982. Rule is 305 mm. Photograph by John M. Duffy.

Two other fishermen caught milkfish off the southern California coast in 1982 and one was taken in 1983. On 7 August 1982 a specimen was taken just outside the San Pedro breakwater (lat 33° 42' 25" N, long 118° 15' 00" W) by John Guglielmo in a gill net. The late John E. Fitch, California Department of Fish and Game, retired, identified the fish and determined its length to be 970 mm TL, 745

mm SL, and its weight to be 7.3 kg. It is deposited at the Natural History Museum of Los Angeles County (LACM 42887-1).

On 9 August 1982 three more milkfish were taken in the San Diego area. Fisherman Mike Irey caught them in a 6½-inch mesh gill net set in heavy kelp (*Macrocystis* sp.) off Point Loma, near the entrance to San Diego Bay (lat 32° 41' 00" N, long 117° 16' 00" W). Denyse Racine, California Department of Fish and Game, identified the fish, measuring 1024 mm TL, 1047 mm TL, and 1055 mm TL and weighing 7.9 kg, 9.3 kg, and 8.6 kg, respectively. All three fish were sold for food.

On 30 December 1983 Stephan Hadley snagged a milkfish with an artificial lure, in Quivira Basin, Mission Bay (lat 32° 45' 45" N, long 117° 14' 15" W). Sportsmen's Seafood Market retained the fish until Hannah Bernard and Bob Read, California Department of Fish and Game, identified the specimen as a 1010 mm TL, 765 mm SL, 7 kg, milkfish. Richard Rosenblatt, SIO, examined the fish and determined that it was a mature female with inactive oocytes. The fish is deposited at SIO (SIO 83-177).

Schuster (1960) reported the world wide range of *C. chanos* to include the tropic and subtropic sections of the Indian and Pacific Oceans, 30° to 40° N to 30° to 40° S lat and 40° E to 100° W long. Neither Miller and Lea (1972) nor Hubbs, Follett, and Dempster (1979) included its range along the California coast. Fowler (1938) added the Galapagos Islands and Chirichigno (1978) the coast of Peru for recent uncommon records of *C. chanos*; yet the milkfish is not uncommon in the Gulf of California from Guaymas to Mazatlan (Evermann and Jenkins 1981, Jordan 1895, Thomson and McKibbin 1976). Migdalski and Fichter (1976) suggest the possible presence of *C. chanos* along the coast of "lower California," which we infer from historical usage to mean Baja California, Mexico. Eschmeyer, Herald, and Hammann (1983, p. 63) note that the milkfish "occasionally strays to S. Calif.;" this information was provided by the late John E. Fitch (William N. Eschmeyer, California Academy of Sciences, pers. commun.).

In 1877, 100 milkfish were brought to California from Hawaii in exchange for salmon and trout eggs (Calif. Comm. of Fisheries 1877). The fish were introduced in a small stream at Bridgeport, Solano County. There is no record of their survival.

There have been, however, three reports of the milkfishes' appearance along the coast of Baja and southern California during the last 55 years. Clark (1929) reported a specimen in a San Pedro fish market that had been taken "off the western coast of Lower California." A milkfish was observed floating dead in south San Diego Bay, also in 1929 (John E. Fitch, pers. commun.). Not until May 1979 was another specimen noted. San Diego fisherman Ed Simpson caught a milkfish on hook-and-line in south San Diego Bay, near where San Filippo's fish was taken. Richard Rosenblatt, SIO, identified the specimen as a milkfish from the remains of the caudal peduncle and caudal fin which are deposited at SIO (SIO 79-345).

The 1982 specimen from off San Pedro represents a northern range extension of approximately 1786 km from an area off the west coast of Mexico between Mazatlan and Guaymas (Figure 2). We believe that this locale is the most likely source for these fish. Our specimens were all large and presumably adult fish (maximum reported size 1.7 m—in Nelson 1976) which would easily be able to make the journey to our coastline.

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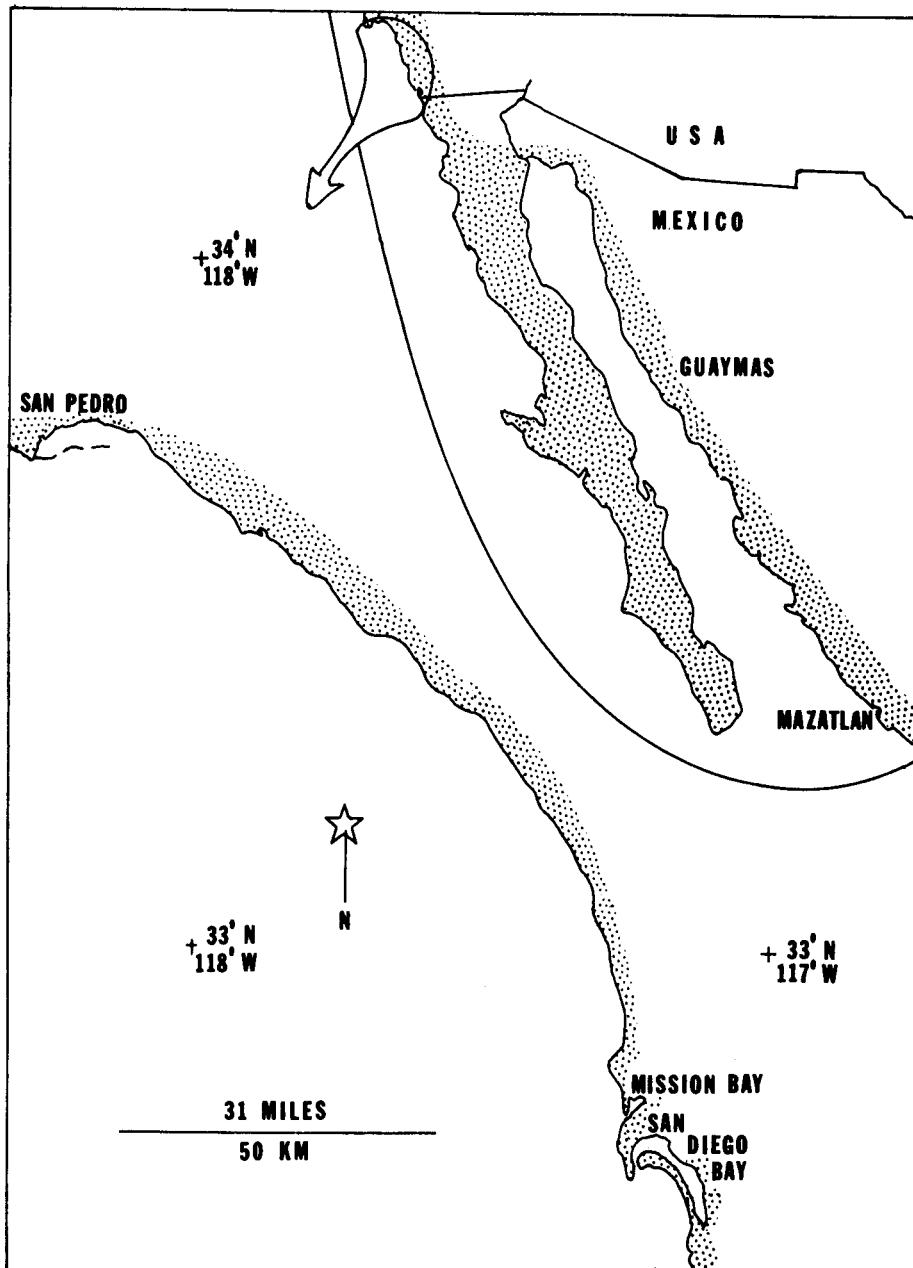


FIGURE 2. *Chanos chanos* catch locations in southern California. Inset is not to scale.

#### ACKNOWLEDGMENTS

We thank fishermen L. San Filippo, J. Guglielmo, M. Irely and S. Hadley for their recognition of these unusual fish and their cooperation in obtaining information relative to the captures.

R. H. Rosenblatt, SIO, and C. C. Swift and R. J. Lavenberg, LACM, allowed us access to their respective fish collections and provided assistance.

California Department of Fish and Game employees assisted us in many ways. D. Racine provided the information on Irely's fish. R. Read assisted in examining

Hadley's fish. R. N. Lea and H. W. Frey both provided references, reviewed the manuscript, and provided helpful comments. G. Quiros checked all literature citations. The late J. E. Fitch provided measurements of the San Pedro specimen and references, observations, and encouragement unobtainable from any other source. D. Gittings, National Marine Fisheries Service and P. Leverenz, SIO, provided assistance in obtaining references.

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