

**AMERICAN FOOD AND
GAME FISHES. A POPULAR
ACCOUNT OF ALL THE SPECIES
FOUND IN AMERICA NORTH OF
THE EQUATOR, WITH KEYS FOR
READY IDENTIFICATION, LIFE HIS-
TORIES AND METHODS OF CAPTURE**

BY

DAVID STARR JORDAN, PH. D.

President of Leland Stanford Junior University

AND

BARTON WARREN EVERMANN, PH. D.

Ichthyologist of the United States Fish Commission

**ILLUSTRATED WITH COLORED PLATES AND TEXT
DRAWINGS, AND WITH PHOTOGRAPHS FROM LIFE BY
A. RADCLYFFE DUGMORE**



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THE TILEFISHES

Family LXIX. Latilidæ

BODY more or less elongate, fusiform or compressed; head subconical, the anterior profile usually convex; suborbital without bony stay; cranial bones not cavernous; opercular bones mostly unarmed; mouth rather terminal, little oblique; teeth rather strong, none on vomer or palatines; premaxillaries protractile, each usually with a blunt, posterior canine; maxillary without supplemental bone; pseudobranchiæ well developed; gill-membranes separate, more or less free from the isthmus; scales small, ctenoid; lateral line present, complete, more or less concurrent with the back; dorsal fin long and low, usually continuous, the spinous portion always lower than soft part, but never obsolete; anal very long, its spines few and feeble; caudal fin forked.

Fishes of temperate and tropical waters, some reaching a large size. The 2 genera are *Caulolatilus* and *Lopholatilus*, the former with 22 to 27 rays in the dorsal and anal, the latter with only 13 to 15.

Caulolatilus contains 3 species, the blanquillos, 2 of which occur among the West Indies, the other on the Pacific Coast. None is of sufficient abundance to be of much food-value.

The genus *Lopholatilus* contains but 1 species, *L. chamaeleonticeps*, the famous tilefish whose discovery only a few years ago and sudden, almost total disappearance a few months later, has interested commercial fishermen and scientists as well.

The story of the tilefish is a fascinating one. In May, 1879, Capt. Kirby, of the schooner *Wm. V. Hutchings*, while trawling for cod to the southward of Nantucket, took 5,000 pounds of a fish not only new to him, but new to science. The greater part of the fish taken on the first haul of the trawls were thrown away, but as the samples that had been tried proved excellent eating, those subsequently taken were salted down, and when taken to Gloucester a portion was smoked. In July, more tilefish were taken, this time on hand-lines. In 1880 and 1881, while engaged in exploring the sea-bottom off the southern coast of New England, the United States Fish Commission steamer

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Fish Hawk took tilefish in several places at depths of 70 to 134 fathoms. The indications of the apparent abundance of a new and edible fish of large size made Professor Baird desirous of obtaining fuller knowledge of its habitat and habits, in the hope that an important new fishery might be developed. Various causes conspired to delay the investigations which he planned until 1882. In March and April of that year vessels arriving at Philadelphia, New York and Boston reported having passed large numbers of dead or dying fish scattered over an area of many square miles, and from descriptions and specimens brought in it was evident that the great majority of these fish were the tilefish. Naturally these fish were not evenly distributed over the area in which they were found, some observers reporting them as scattering, and others as at times so numerous that there would be as many as 50 on the space of a square rod. As one account after another came in, it became evident that a vast destruction of fish had taken place, for vessels reported having sailed 40, 50, and 60 miles through floating fish; and in one case the schooner *Navarino* ploughed for no less than 150 miles through waters dotted as far as the eye could reach with dying fish. Capt. J. W. Collins estimated that an area of 5,000 to 7,500 square miles was so thickly strewn with dead or dying fish that their numbers must have exceeded the enormous number of 1,000,000,000. As there were no signs of any disease, and no parasites found on the fish brought in for examination, their death could not have been due to either of these causes; and many conjectures were made as to the cause of this wholesale destruction of deep-water fishes, such as ordinarily are unaffected by surface conditions. Submarine volcanoes, heat, cold, and poisonous gases were among the agencies suggested. Professor Verrill has noted the occurrence of a strip of water, having a temperature of 48° to 50°, lying on the border of the Gulf Stream slope, between the Arctic current on the one hand and cold depths of the sea on the other.

In 1880 and 1881 Professor Verrill dredged along the Gulf Stream slope, obtaining in this warm belt, as he terms it, many species of invertebrates characteristic of more southern localities. In 1882 the same species were scarce or wholly absent from places where they had previously been abundant; and this, taken in connection with the occurrence of heavy northerly gales and the presence of much inshore ice at the north, leaves little doubt

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but that some unusual lowering of temperature in the warm belt brought immediate death to many of its inhabitants. This is the more probable since it is a well-known fact that sudden increase of cold will bring many fishes to the surface in a benumbed or dying condition, and there was no evidence of any shock or earthquake having occurred at that time.

For several years following no tilefish could be found and it was feared the species had become extinct. Although frequent search was made for them it was not until 1892 that they were found again. In that year the *Grampus* took 8 fish and in the following year 53 others were obtained. Thirty more were caught in 1897, and in 1898, when more careful tests were made, the United States Fish Commission caught 342 fish. And every year since 1898 large experimental catches have been made by the Commission and there is now no question but that the tilefish has thoroughly re-established itself, and it is hoped and believed that it may soon become the object of an important fishery. The tilefish grounds are at the edge of the Gulf Stream in about lat. 40° N. and long. 71° W. and in 70 to 80 fathoms.

The tilefish reaches a length of 3 feet and a weight of 30 pounds, and is a superior food-fish in every respect. Everyone who has eaten it praises it very highly. Mr. Willard Nye, an expert in such matters, pronounces it superior to any other fish except the pompano fresh from the water. It is best when boiled or baked.