

SCIENTIFIC RESULTS OF EXPLORATIONS BY THE U. S. FISH COMMISSION STEAMER ALBATROSS.

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No. VIII.—DESCRIPTION OF A NEW COTTOID FISH FROM BRITISH COLUMBIA.*

BY

TARLETON H. BEAN,

Ichthyologist, U. S. Fish Commission.

On the 27th of September, 1888, the U. S. Fish Commission steamer *Albatross* obtained in Barclay Sound, British Columbia, a remarkable little fish whose affinities are with the *Cottidae*, but differing from all the other members of the family in characters of such importance as to necessitate the formation of a new subfamily to receive it. The description is given herewith.

Subfamily SYNCHIRINÆ.

Cottidae with ventral fins thoracic, but remote from the gill-opening and consisting of a rudimentary spine and several rays; with a short and well-developed spinous dorsal, which is separated by a deep notch from the soft portion; the spines slender; the branchial apertures wide and the gill-membrane free from the isthmus; gills $3\frac{1}{2}$, apparently with no slit behind the last; the pectoral fins continuous around the breast, the rays supported all around by actinosts; the genital papilla of males capable of being received into a pit in front of the anal fin.

Synchirus gen. nov.

Body slender and moderately elongate, resembling that of *Triglops*; covered with thin, tough skin. Lateral line armed with spiny tubercles. Spiny scales in a series along the dorsal base. Head subconical, with moderately pointed snout. Mouth small, very slightly oblique; the rami of the mandible a little concave beneath. Premaxillaries protractile. Jaws with slender, villiform teeth in bands. Teeth on vomer and palatines. Pseudo-branchiæ present. Gills $3\frac{1}{2}$, no slit behind the last. Gill-openings wide, extending above the median line, the membrane free from the isthmus. Suborbital connected by a bony stay with the preopercle, which bears a strong bifid spine at its angle. Pectorals

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completely united around the breast, all the rays supported by actinosts, the membrane free at its margin. Ventrals distant from the gill-opening, the pubic bones being remarkably long, the fins diverging widely and consisting of a rudimentary spine and three rays. Dorsal long, the spinous portion low, with slender spines, and the soft portion twice as long as the spinous. Anal long. Caudal moderately elongate, its middle rays somewhat produced.

Synchirus gilli sp. nov.

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The eye is about as long as the snout and one-fourth the length of the head, which is two-sevenths of the total length to caudal base. The depth is contained $5\frac{1}{2}$ times in the total length. The maxilla extends to about below the middle of the eye. The interorbital space is not equal to the length of the eye. There is a pair of strong nasal spines. The preopercle has a short and very sharp bifid spine. The lateral line contains about 41 spiny tubercles and most of the specimens have a single series of spiny scales along the dorsal base. The pectorals are nearly as long as the head and extend to about below the fourth ray of the soft dorsal. The ventrals are nearly under the middle of the pectorals and their length varies greatly. In some specimens they are scarcely half as long as the head; in others they are as long as the post-orbital part of the head. In some males the anal papilla is two-thirds as long as the ventral fin of the same individual. This papilla can be received into a pit in front of the anal fin.

The spinous dorsal begins over the axil of the pectoral; the length of its base is a little greater than the post-orbital part of the head. None of its spines are much longer than the eye.

The distance of the anal origin from the head is about two-thirds the length of the head. The rays of the soft dorsal and the anal are not much longer than the dorsal spines.

The caudal is about two-thirds as long as the head and its middle rays are somewhat the longest.

The color in spirits is a pale yellowish brown. The sides show traces of several small pale blotches and the caudal and pectoral have a few very small dark blotches, those on the caudal forming interrupted bands. Across the back are faint indications of about five pale cross-bands.

The species is dedicated to Dr. Theodore Gill in appreciation of his researches upon the mail-cheeked fishes.

Three individuals, number 41820, have been taken as the types of the species. The largest is 46 and the smallest 38 millimeters in length.