

ON THE FAMILY CENTROPOMIDÆ.

BY THEODORE GILL.

The genus *Centropomus* of the tropical American seas and rivers has generally been referred to the family Percidæ. As long ago as 1865, however, I was struck by the remarkable differences in its osteology from any other fishes known to me, and communicated the results of my examination to Professor Poey, who agreed with me that the type was entitled to family distinction. Both Professor Poey and myself have, therefore, isolated the form in question as a peculiar family. That family has, however, not yet been characterized, and the object of this communication is to indicate some of the most peculiar features which distinguish the form from those with which it has been usually associated. The want of an accessible large collection of skeletons precludes a detailed comparison with many types, but most of the American genera of Percidæ (typical), Labracidæ, Serranidæ, and Sparidæ have been examined as to their skulls at least. It is possible that the genus *Lates* and even *Nippon* may be more nearly related, but no skeletons of those fishes are available. It is to be hoped that the present notice may attract attention to their relations.

CENTROPOMIDÆ.

Synonyms as families.

= Centropomidæ, Gill, MSS., 1865.

= Centropomatidi, Poey, Repertorio Físico-Natural de Cuba, v. 2, p. 280, 1868 (not defined).

= Centropomidæ, Gill, Arrangement Families of Fishes, p. 11, 1872.
Percoides and Percidægen., authors generally.

As will be seen, Professor Poey was the first ichthyologist to publish a name for the family.

Typical Acanthopterygians with the postorbital portion of the skull longer than the oculo-rostral; the parietals behind the constriction continuous with the epiotics and transverse laminæ arising from the supraoccipital crest, the three together forming a well differentiated posterior oblong pentagonal or hastiform area; the re-entering parietal sinus, with its anterior margin, produced *forwards nearest the opisthotics*; the exoccipitals well developed and contiguous above the foramen magnum; the vertebræ in typical number (10 + 14) and longish; the anterior two partly co-ossified and the first with selliform apophyses extending backwards and embracing the second vertebra; the vertebræ mostly with foveæ or pits for the ribs and only with developed parapophyses for the posterior (6-10) pairs of ribs; the second neural spines suberect, and with lamiform extensions which embrace the first; the neurapophyses and neural spines of the other vertebræ depressed at their bases, continuous with the zygapophyses in front, and slightly curved upwards at their tips; the hæmal spines resembling the neural.

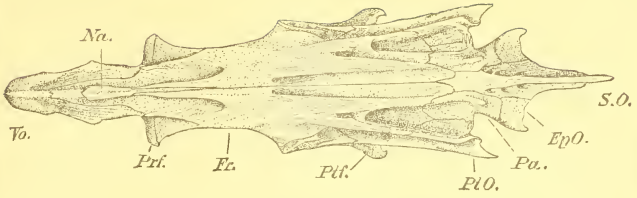


Fig. 1.

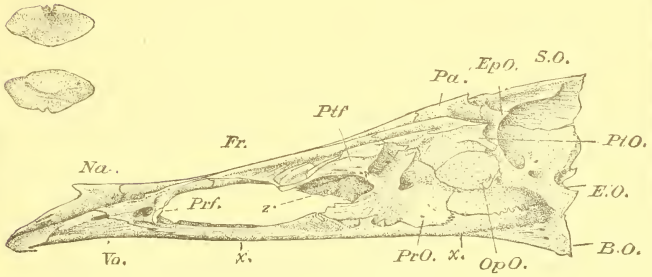


Fig. 2.

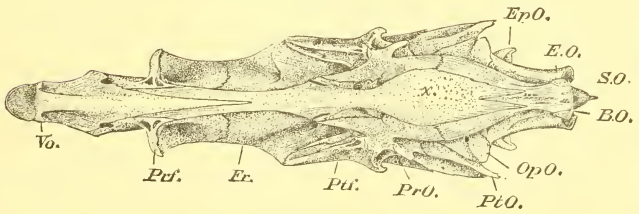


Fig. 3.

CENTROPOMUS.

(Plate VI.)

- < Centropomus, *Lacépède*, Hist. Nat. des Poissons, t. 4, p. 248, 1802.
 < Centropome *Duméril*, Zool. Anal., pp. 133 (Centropoma), 333, 1806.
 < Les Centropomes, *Cuvier*, Règne Animal, t. 2, p. 294, 1817.
 = Les Centropomes, *Cuv. & Val.*, Hist. Nat. des Poissons, t. 2, p. 102, 1828.
 = Oxylabrax, *Bleeker*, Arch. Néerland. Sc. Ex. et Nat., t. 11, p. 264, 1876.
Sciæna sp., *Bloch*.
Platycephalus sp., *Block-Schneider*.
Perea sp., *Lacépède*.
Sphyraena sp., *Lacépède*.
 Not Centropomus, *Bleeker* (*op. cit.*, p. 265), 1876. (= *Stizostethion* Raf. = *Lucioperca*, *Cuv.*)

NOMENCLATURE OF THE XIPHIIDS.

BY THEODORE GILL.

The synonymy of the family Xiphiidæ and its subfamilies has been partially given in Professor Goode's excellent article on "The Taxonomic relations and geographical distribution of the members of the Sword-fish family" (Proc. U. S. Nat. Mus., v. 4, pp. 415-433, 1882), and may be supplemented by the following exhibit. As the characters of the several groups have been already well given by Professor Goode, it is unnecessary to repeat them here. It may be stated, however, that skeletal differences confirm those used for the diagnoses, and the vertebræ especially are even characteristic for the distinction of two families.

The old family Xiphiidæ has been differentiated by Dr. Günther, as a "division" from the Scombridæ and the latter contradistinguished in a "division" of Acanthopterygians containing many very heterogeneous forms. Nevertheless, a careful study of the type renders it evident that the family is closely related to the Scombridæ, and the genus *Acanthocybium*, a representative of that family, manifests an incipency of the characteristics of the Xiphiidæ in the structure of the gills as well as the projection of the snout, the development of the dorsal fin, and, to a less extent, other features. As Lütken and Goode have expressly contended, and as I indicated in 1873, by the sequence in the "Catalogue of the Fishes of the Eastern Coast of the United States" (pp. 9, 3), the Tetrapturinae or Histiophorinae are the most generalized forms of the family and deviate least from the Scombridæ while the Xiphiinae are highly specialized, and by the inferior position of the pectorals and investment of the fins mimic the sharks, the largest of which they almost rival in size.