

head forms rather more than an eleventh of the length, and is twice as long as high. The length of the snout to the diameter of the eye is about equal, and exceeds a fourth of the head's length. The length of the pectoral fin exceeds a seventh of the length. The well developed caudal has a lunate emargination, and its inner rays exceed a twelfth of the length, while the largest external ones exceed a sixth.

The color is purplish, uniform on the body, while the dorsal is darker and furnished with several rows of blackish dots; the caudal has two dark dots near the base, from the upper of which a streak advances forwards; the pectoral, externally, has a single dark dot near the base of the upper rays.

A single specimen, five inches and a half long, was found in the Chinese seas by Dr. William Stimpson, during the voyage of the North Pacific Exploring Expedition.

XV.—*On a New Family Type of Fishes related to the*
BLENNIOIDS.

BY THEODORE GILL.

Read April 3, 1865.

FAM. CHÆNOPSIDÆ.

Genus Chænopsis, Poey.

Body naked, compressed, almost anguilliform, with the back and abdomen obtuse; very gradually decreasing in height to the caudal fin. *Anus*, submedian.

Lateral line, a simple furrow running nearly along the middle of the side.

Head much elongated, quadrate behind at the opercular region, conic in front, with the profile rectilinear and the snout acute.

Eyes moderate, circular, partly in the anterior third of the head. *Suborbital* chain well developed, perfectly ossified; preorbital triangular, pointed in front; portion under the eye narrow; behind, especially at the lower angle, enlarged.

Preoperculum produced backwards and rounded, *operculum* narrow oblong; *interoperculum* narrow, mostly concealed under the preoperculum; *suboperculum* of nearly uniform width curved, and chiefly behind the operculum. The opercular elements are situated high up, and leave exposed to view the branchiostegal membrane and its rays, which are continued upwards and curved inwards towards the scapular region; when appressed to the sides, a foramen is formed in front.

Mouth large, with the cleft nearly horizontal, linear, continued behind the eyes. Jaws not protractile, the lower slightly projecting. *Intermaxillaries* almost united by their posterior processes, and with their lateral continued to the eye; *supramaxillaries* narrow membranaceous. *Lips* obsolete.

Teeth, on the *intermaxillaries* and lower jaw, subcylindrical and blunt, and in a uniform row, behind which, in front, there is a broad band of villiform ones on the palatine bones, uniserial and obtusely subcylindrical like those of the jaws; the palatine rows are parallel; vomer edentulous.

Branchial membrane enlarged, conspicuous externally, confluent and emarginated behind beneath, and free from the throat.

Branchiostegal rays seven, very slender, elongated, and curved upwards and inwards behind the opercular apparatus.

Dorsal continuous from the nape, above the posterior margin of the preoperculum to the caudal, to which it is united; elevated in front; with its anterior rays inarticulated, and its posterior articulated, but undivided.

Anal fin opposite, and similar to the articulated portion of the dorsal, with its two anterior rays inarticulated.

Caudal fin small, convex behind, with the dorsal and anal parts attached to it.

Pectoral fins entirely lateral, rather narrow, with rays slender and simply articulated, and the lower ones rapidly graduated.

Ventrals inserted slightly in advance of the pectorals, with two or three articulated rays.

This genus forms the type of a distinct family of fishes, distinguished by the form of the head, the development of the post-ocular region, the exposure and development of the branchiostegal membrane and rays, and the composition of the

mouth. The family appears to be most nearly related to the Blennioids, with which it essentially agrees in the structure of the fins, and even in the development of the branchiostegal rays and their exposure; it only differs in degree from those fishes, but the more elongated body and the peculiar modification of the head at once distinguish it; no anal papilla is developed, at least in the single specimen examined, nor is it probable that it is present in either sex. The whole structure is firm and compact, and presents a considerable contrast to the flabby appearance characteristic of the Blennioids.*

***Chænopsis ocellatus*, Poey Ms.**

The height is contained about 20 times in the total length; the head about $4\frac{1}{4}$; the diameter of the eyes equals or exceeds an eighth of the head's length, is distant about $2\frac{1}{2}$ diameters from the snout, and its posterior margin is rather nearer the angle of the preoperculum than the snout. The height of the dorsal fin in front equals about half the length of the head; the length of the pectoral is contained between 10 and 11 times in the total, and the caudal enters between 16 and 17 times in the length.

D. XVIII. 38. A. II. 38. C. 15. P. 12. V. 2-3.

The color is greenish purple; the dorsal at its anterior angle has an orange ocellated spot.

A single specimen $4\frac{3}{4}$ inches long was obtained by Prof. Poey at Matanzas, and kindly forwarded for my examination.

With the *Chænopsis* a small specimen of *Callionymus*† was

* I exclude from the Blennioids the genus *Muraenoides* and its allies, and have constituted for them a peculiar family—*Xiphidiontidae*.

† *Callionymus* has been restricted to species with a single lateral line, branchial apertures on the sides of the nape, and perfect ventral fins. The *C. goramensis* Blkr. may be regarded as a distinct type (*Diplogrammus*), distinguished by the double lateral line. *Synchiropus* and *Dactylopus* are excellent genera, and the last has been adopted under the name *Vulsus*, the change of name having been made on account of the existence of the term *Dactylopoda*, given by Von Meyer to a group of reptiles, as I have been kindly informed by the author of the change. Such extreme views would necessitate very numerous changes in the nomenclature, and are not recognized by naturalists generally.



Gill, Theodore. 1865. "On a new family type of fishes related to blennioids." *Annals of the Lyceum of Natural History of New York* 8(15), 141–144.

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