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REPORTS ON THE COLLECTIONS OBTAINED BY THE FIRST JOHNSON-SMITHSONIAN DEEP-SEA EXPEDITION TO THE PUERTO RICAN DEEP

A NEW GENUS OF OPISTHOGNATHID FISHES

BY

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(Publication 3347)

CITY OF WASHINGTON
PUBLISHED BY THE SMITHSONIAN INSTITUTION
DECEMBER 24, 1935
Smithsonian Miscellaneous Collections, Volume 91

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The presence of a new genus and species of Opisthognathidae among the fishes obtained by the Johnson-Smithsonian Deep-Sea Expedition has made it necessary to examine the scattered literature on the group and some confusing points in its classification.

The trachinoids, as defined by Regan, are not well differentiated from the serranid-like percoids, and certain genera now referred to some of the trachinoid families may be found to be nearer the other group. Ogilby has revised the genera of Opisthognathidae, but he included in this family the peculiar Japanese genus *Owstonia*, which is placed by Jordan, Tanaka, and Snyder and by Jordan in the monotypic family Owstoniidae. To my knowledge this family has never been defined.

*Owstonia* seems to be one of those genera that might be placed with equal propriety either among the anthine serranids or with the trachinoids. Barnard, when synonymizing Gilchrist's *Parasphenanthias* with *Owstonia*, has pointed out the evident relationship of the latter to *Sphenanthias* Weber. Fowler has resurrected *Parasphenanthias* for a new South African species, and places the genus in the Pseudochromidae. Since I intend to treat this assemblage of genera more fully in the near future, I shall not go further into their relationships at this time, but I wish to point out that *Owstonia, Sphenanthias,*

5 Classification of fishes, p. 231, 1923.
Parasphenanthias, Loxopseudochromis, and Opsipseudochromis form a closely interrelated group of deep-water fishes that is apparently rather close to the Opisthognathidae but not to the Pseudochromidae. Superficially, all the known forms are recognizable by the hidden black spot on the membrane connecting the maxillary and premaxillary. All the species appear to be red in life.

After the removal of Ovstonia, the Opisthognathidae seem to form a natural family. Another supposed opisthognathid, Gnathypops samoensis Fowler and Silvester, from Samoa, must also be removed from the family. It is a synonym of the Indo-Pacific pseudochromid Pseudogramma polyacanthus (Bleeker). The tropical American genera Rhegma Gilbert and Caribrhegma Breder are both synonyms of Pseudogramma. I have examined the holotypes of Pseudogramma thunnasias (Gilbert) in the Stanford Museum and of Pseudogramma gregoryi (Breder) in the Bingham Oceanographic Collection and compared examples of each with the East Indian species.

The known genera of Opisthognathidae may be distinguished by the following synopsis, taken in part from Ogilby:

**SYNOPSIS OF THE GENERA OF OPISTHOGNATHIDAE**

1a. Dorsal spines pungent; cheeks and opercles with scales.
   2a. Scales moderate in size, about 40 in a longitudinal series
       from upper part of gill opening to caudal base; gill
       rakers moderate in number, 38 on first gill arch; anal
       with 2 spines; dorsal and anal with about 12 soft rays
       each. ........................................... *Lonchistium*, n. gen.
   2b. Scales small, over 55 in a longitudinal series; gill rakers
       exceedingly fine and numerous, 64 on first arch; anal
       with 3 spines; dorsal and anal with 16 to 18 soft
       rays. ........................................... *Lonchopisthus* Gill

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10 *Loxopseudochromis* and *Opsipseudochromis* were described by Fowler (Proc. Acad. Nat. Sci. Philadelphia, vol. 85, pp. 354-357, 1934) as pseudochromids. In the same paper it may be noted that *Elapterostomias philippinus*, described as a stomiatid, is an astronesthid, apparently identical with *Borostomias schmidti* Regan and Trewavas; that *Brachypleuros axillaris* is identical with *Citharoides macrolepis* (Gilchrist); that *Macrurocytus* is not a zebid but is referable to a new family (*Macrurocytidae*) and perhaps a new suborder; and that *Brachyglaucosoma*, if a recognizable subgenus, equals *Reganichthys* Ogilby.


12 See Gilbert and Starks, Mem. California Acad. Sci., vol. 4, p. 99, pl. 15, fig. 31, 1904 (Panama Bay).

1b. Dorsal spines flexible, not pungent; cheeks and opercles naked.

3a. Dorsal spines distally split into 2 lateral segments.

3b. Dorsal spines distally entire.

4a. Trunk naked anteriorly..................Merogymnus Ogilby

4b. Trunk fully scaled.

5a. Maxillary shorter than head, its distal extremity truncate or notched...........Gnathyps Gill

5b. Maxillary greatly produced backward in a flexible lamina, about as long as head.

Opisthognathus Cuvier (Oken)

LONCHISTIUM, n. gen.


LONCHISTIUM LEMUR, n. sp.

Figure 1

Holotype.—U.S.N.M. no. 93459 (Field no. 722), 35 mm standard length; from Johnson-Smithsonian Deep-Sea Expedition station 105, off Punta Boca Juana, Puerto Rico, latitude 18° 30' 50" N., longitude 66° 13' 20" W., to latitude 18° 31' 30" N., longitude 66° 14' 55" W., March 8, 1933, oyster dredge, 150 fathoms.

Description.—Unfortunately, the single specimen on which this species is based is in rather poor condition, due largely to its having been taken in the oyster dredge on very rough bottom. The fins are more or less broken, many of the scales have fallen, and the intestine was removed in search of parasites when the specimen was fresh. It is thus impossible to be certain of the length of the caudal and the shape of the dorsal and anal fins, but, after careful examination of the fish, I believe I have succeeded in restoring very nearly the original form of the fins in the accompanying sketch.

Head length 2.9, greatest depth (at first dorsal spine) 3.7, least depth caudal peduncle 10, and predorsal length 2.8 times in standard length. Horizontal diameter of eye 2.4 in head. Interorbital width (bony) 3.8 in horizontal diameter of eye.

Measurements in millimeters: Standard length 35; head length 12; horizontal diameter of eye 5; bony interorbital 1.3; greatest depth of body 9.5; least depth caudal peduncle 3.5; snout tip to origin of dorsal fin 12.5; greatest thickness of head 6; snout tip to end of maxillary 6.5.

Head massive and thick. Body rather compressed. Depth decreasing gradually from dorsal origin. Anal base somewhat convex. Maxillary barely extending to hind border of eye, widened posteriorly, the upper part of its end notched. Jaws equal anteriorly. Caudal apparently acuminate. Pectoral extending to over base of first or second soft ray of anal fin. Lateral line high, ending below base of first soft dorsal ray. Body and nape fully scaled, the scales terminating abruptly at the superficial line of the skull.

Teeth in jaws long and conical but slightly blunt at tips, fairly evenly spaced and longer in the front than at the sides; a single series in each jaw except for two or three teeth behind the main series at the mandibular symphysis; teeth of lower jaw directed outward rather strongly, especially toward front, those of upper jaw less evidently flaring; a small edentulous place at middle of upper jaw. No teeth on vomer, palate, or tongue.

Gill rakers long and slender at junction of upper and lower limbs but short at ends of arch; 12 rakers on upper limb and 26 on lower limb of first arch, or 38 in all. Branchiostegal rays 6. Gill membranes free from each other and from the isthmus.

Color mostly lost. Scale pockets faintly dark-edged. Dorsal and anal fins faintly dusky toward margins.

Fig. 1.—*Lonchistium lemur*. Holotype, × 2. Drawn by G. S. Myers.
Remarks.—I have directly compared *L. lemur* with Poey's two type specimens of *Lonchopisthus micrognathus* (U.S.N.M. no. 4785). I find that the scales in the latter are only 63 (instead of 80 or more) in a longitudinal series but that there are 64 gill rakers on the first arch (25 on the upper limb and 39 on the lower). There are 6 branchiostegal rays and the fin counts are as follows: Dorsal XII-17, anal III-16, pectoral 17, and pelvic I-5. The head is much more compressed than in *L. lemur*.

Mowbray has described *Lonchopisthus vanderbilti* from "off the coast of Cuba." From the description, this species seems to differ from *L. micrognathus* Poey chiefly in the slightly larger scales, if it is in fact a distinct species. The gill-raker count is not given. In any case, Mowbray's fish is not at all close to *L. lemur*.