

SMITHSONIAN MISCELLANEOUS COLLECTIONS
VOLUME 91, NUMBER 23

Johnson Fund

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

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BALTIMORE, MD., U. S. A.

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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,¹ 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. Ogilby² has revised the genera of Opisthognathidae, but he included in this family the peculiar Japanese genus *Owstonia*,³ which is placed by Jordan, Tanaka, and Snyder⁴ and by Jordan⁵ 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 anthiine serranids or with the trachinoids. Barnard,⁶ when synonymizing Gilchrist's *Parasphenanthias*⁷ with *Owstonia*, has pointed out the evident relationship of the latter to *Sphenanthias* Weber.⁸ Fowler⁹ 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*,

¹ The classification of the percoid fishes. Ann. Mag. Nat. Hist., ser. 8, vol. 12, pp. 111-145, 1913.

² Mem. Queensland Mus., vol. 7, pt. 1, pp. 123-124, 1920.

³ Tanaka, Journ. Coll. Sci. Imp. Univ. Tokyo, vol. 23, p. 27, 1908.

⁴ Journ. Coll. Sci. Imp. Univ. Tokyo, vol. 33, p. 188, 1913.

⁵ Classification of fishes, p. 231, 1923.

⁶ Ann. South African Mus., vol. 21, p. 492, 1927.

⁷ Union of South Africa, Fisher. Mar. Biol. Surv., Rept. no. 2 (1921), Spec. Repts., p. 69, 1922.

⁸ Die Fische der Siboga-Expedition. Siboga-Exped., vol. 57, p. 210, 1913; Weber and de Beaufort, Fishes of the Indo-Australian Archipelago, vol. 6, p. 114, 1931.

⁹ Proc. Acad. Nat. Sci. Philadelphia, vol. 86, p. 461, 1934.

Parasphenanthias, *Loxopseudochromis*,¹⁰ and *Opsipseudochromis*¹⁰ 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 *Owstonia*, the Opisthognathidae seem to form a natural family. Another supposed opisthognathid, *Gnathypops samoensis* Fowler and Silvester,¹¹ from Samoa, must also be removed from the family. It is a synonym of the Indo-Pacific pseudochromid *Pseudogramma polyacanthus* (Bleeker).¹² The tropical American genera *Rhegma* Gilbert¹³ and *Caribrhegma* Breder¹⁴ are both synonyms of *Pseudogramma*. I have examined the holotypes of *Pseudogramma thaumasia* (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

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 *Elaepterostomias philippinus*, described as a stomiatid, is an astronethid, apparently identical with *Borostomias schmidti* Regan and Trewavas; that *Brachypleurops axillaris* is identical with *Citharoides macrolepis* (Gilchrist); that *Macrurocyttus* is not a zeid but is referable to a new family (Macrurocyttidae) and perhaps a new suborder; and that *Brachyglaucosoma*, if a recognizable subgenus, equals *Reganichthys* Ogilby.

¹¹ Carnegie Inst. Washington Publ. 312, p. 118, fig. 1, 1922.

¹² See Weber and de Beaufort, Fishes of the Indo-Australian Archipelago, vol. 6, p. 119, fig. 21, 1931; also Fowler, U. S. Nat. Mus., Bull. 100, vol. 11, p. 3, 1931.

¹³ See Gilbert and Starks, Mem. California Acad. Sci., vol. 4, p. 99, pl. 15, fig. 31, 1904 (Panama Bay).

¹⁴ Bull. Bingham Oceanogr. Coll., vol. 1, art. 1, p. 44, fig. 22, 1927 (Glover Reef, off British Honduras).

- 1b. Dorsal spines flexible, not pungent; cheeks and opercles naked.
- 3a. Dorsal spines distally split into 2 lateral segments.
Stalix Jordan and Snyder
- 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.....*Gnathypops* Gill
- 5b. Maxillary greatly produced backward in a flexible lamina, about as long as head.
Opisthognathus Cuvier (Oken)

LONCHISTIUM, n. gen.

Dorsal and anal spines sharp and stiff. Posterior part of cheeks scaled and a patch of 9 scales on the upper part of the opercle. Scales of body moderate in size, about 40 in a longitudinal series to base of caudal. Gill rakers 38 on first arch. Dorsal with 11 spines and 12 soft rays. Anal with 2 spines and 12 soft rays. Head heavy and thick, not nearly so compressed as in *Lonchopisthus*. Eyes very large. Genotype, *L. lemur*.

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.

Dorsal XI-12. Anal II-12. Pectoral 17 or 18. Pelvic I-5. Caudal 22, counting rudimentary rays above and below. Scales mostly lost, 40 to 42 in a longitudinal series from upper part of gill opening to end of hypural fan.

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

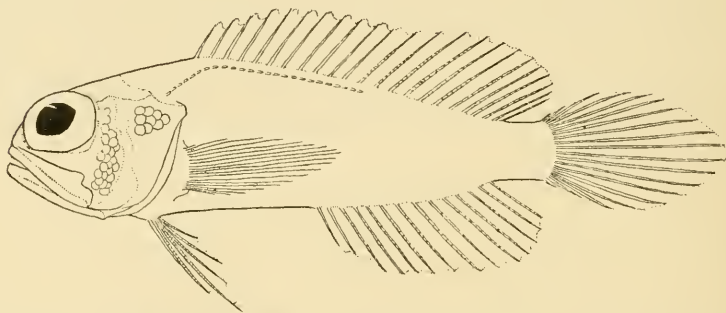


FIG. 1.—*Lonchistium lemur*. Holotype, $\times 2$. Drawn by G. S. Myers.

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.

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 branchios-tegal 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*.

Mowbray¹⁵ 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*.

¹⁵ In Borodin, Bull. Vanderbilt Oceanogr. Mus., vol. 1, art. 1, p. 30, 1928.