

Xystreurys brasiliensis, sp. n.

D. 83. A. 66. Scales 85. Depth $2\frac{1}{3}$ in length. Eye 3 in head.

Total length 170 mm.

Cape Frio, 40 fathoms.

III.—*A Synopsis of the Fishes of the Family Macrorhamphosidæ.* By C. TATE REGAN, M.A.

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Synopsis of the Genera and Species.

I. First dorsal spine quite short.

A. On each side of the back two series of bony plates, in each series 3 well-developed and a fourth, much smaller than the others.

1. Dorsal fins separated by an interspace, or connected by a series of short isolated spines; distance from base of dorsal spine to vent not or but little more than $\frac{1}{2}$ that from head to caudal fin. (*Macrorhamphosus*.)

a. Diameter of eye not less than postorbital length of head.

Depth of body $3\frac{1}{2}$ to $4\frac{1}{4}$ in length; dorsal spine inserted above origin or anterior part of anal, strong, serrated, $\frac{2}{3}$ to $\frac{3}{4}$ of distance from operculum to caudal..... *scolopax*.

Depth of body 3 to $3\frac{1}{2}$ in length; dorsal spine inserted above vent, strong, serrated, $\frac{1}{2}$ to $\frac{4}{5}$ of distance from operculum to caudal..... *elevatus*.

Depth of body 4 to $4\frac{1}{4}$ in length; dorsal spine inserted a little in advance of vent, strong, serrated, when laid back reaching caudal fin.... *sagifue*.

Depth of body $4\frac{1}{2}$ to $6\frac{1}{2}$ in length; dorsal spine inserted in advance of vent, serrated or not, $\frac{1}{4}$ to $\frac{2}{3}$ distance from head to caudal fin, when laid back nearly or quite reaching origin, or sometimes posterior end of soft dorsal..... *gracilis*.

Depth of body $4\frac{1}{2}$ to 5 in length; dorsal spine inserted in advance of vent, smooth or feebly serrated, $\frac{1}{11}$ to $\frac{2}{9}$ of distance from operculum to caudal fin, when laid back not reaching soft dorsal..... *japonicus*.

b. Diameter of eye less than postorbital length of head.
velitaris.

2. Dorsal fins continuous at base; spinous dorsal of 7 spines, the last 5 nearly equidistant and gradually decreasing in length backwards; adults with a patch of bristles on nape. (*Notopogon*.)
- a. Distance from base of dorsal spine to vent $\frac{2}{3}$ to $\frac{4}{5}$ that from head to caudal fin *lilliei*.
- b. Distance from base of dorsal spine to vent about equal to that from head to caudal fin.
- α. Origin of soft dorsal nearer to base of second dorsal spine than to edge of back in front of spinous dorsal. *schoteli*.
- β. Origin of soft dorsal nearer to edge of back in front of spinous dorsal than to base of second dorsal spine.
- Dorsal spine stout, with numerous serrations, inserted above base of soft dorsal *fernandezianus*.
- Dorsal spine rather slender, with few serrations, inserted above caudal peduncle *xenosoma*.
- B. On each side of the back two series of bony plates, each series with 4 well-developed plates; dorsal fins continuous at base, the spinous dorsal with 7 spines. (*Centriscops*.)
1. Second dorsal spine inserted above vent or origin of anal; base of spinous dorsal nearly horizontal.... *sinuosus*.
2. Second dorsal spine inserted above anal fin; base of spinous dorsal nearly vertical.
- Dorsal spine $\frac{1}{2}$ distance from head to caudal; diameter of eye not greater than depth of cheek, scarcely more than $\frac{1}{4}$ length of snout (in a specimen of 135 mm.) *humerosus*.
- Dorsal spine $\frac{1}{4}$ distance from head to caudal; diameter of eye twice depth of cheek, more than $\frac{1}{3}$ length of snout (in an adult specimen). *obliquus*.
- II. First dorsal spine $\frac{2}{5}$ as long as second, which is as long as head, distance from head to caudal fin, or depth of body. (*Scolopacichthys*.) *armatus*.

1. MACRORHAMPHOSUS, Lacep., 1803.

Hist. Nat. Poiss. v. p. 136.

Centriscus (non Linn.), Cuv. Règne Anim. ii. p. 350 (1817).

Macrogathus, Gronow, Cat. Fish. p. 147 (1854).

Orthichthys, Gill, Proc. Acad. Philad. 1862, p. 234.

1. *Macrorhamphosus scolopax*, Linn.

Centriscus scolopax, Günth. Cat. Fish. iii. p. 519 (1861).

North Atlantic and Mediterranean.

Specimens in the British Museum from England, Madeira, Spain, and Italy.

2. *Macrorhamphosus elevatus*, Waite.

Macrorhamphosus scolopax, var. *elevatus*, Waite, Mem. Austral. Mus. iv. 1899, p. 59, pl. vii. fig. 1.

Macrorhamphosus gallinago, Ogilby, Proc. R. Soc. Queensland, xxi. 1908, p. 6.

? *Macrorhamphosus lancifer*, Ogilby, Proc. R. Soc. Queensland, xxiii. 1910, p. 90.

? *Macrorhamphosus robustus*, Ogilby, t. c. p. 91.

Macrorhamphosus scolopax, Waite, Rec. Canterbury Mus. i. 1911, p. 171.

Macrorhamphosus elevatus, McCulloch, 'Endeavour' Fishes, p. 23, fig. 8 (1911).

Australia and New Zealand.

In the British Museum a single specimen from Tasmania, not quite so deep and with the dorsal spine shorter than the example figured by Waite, but evidently of the same species.

Ogilby has described three species from Queensland, but these are distinguished from each other and from *M. elevatus* by differences in the depth of the body and the length of the dorsal spine, which may not be outside the limits of variation for this species.

3. *Macrorhamphosus sagifue*, Jord. & Starks.

Macrorhamphosus sagifue, Jord. & Starks, Proc. U.S. Nat. Mus. xxvi. 1902, p. 69, fig. 2.

Japan.

4. *Macrorhamphosus gracilis*, Lowe.

Centriscus gracilis, Lowe, Proc. Zool. Soc. 1839, p. 86; Günth. Cat. Fish. iii. p. 521 (part.).

In the British Museum several examples from Madeira; a very small specimen taken between Montevideo and Magellan may also belong to this species, which is very variable. The ventral scutes are much less distinctly keeled than in *M. scolopax* and the snout is shorter than in that species, only twice as long as the rest of the head in the adult fish.

5. *Macrorhamphosus japonicus*, Günth.

Centriscus japonicus, Günth. Cat. Fish. iii. p. 522 (1861).

? *Macrorhamphosus gracilis*, Waite, Mem. Austral. Mus. iv. 1899, pl. vii. fig. 2.

In the British Museum two examples, types of the species, said to be from Japan. These measure 110 and 125 mm. in total length and seem to be specifically identical with the New South Wales specimen figured by Waite.

6. *Macrorhamphosus velitaris*, Pall.

Centriscus velitaris, Pall. Spicil. Zool. viii. p. 36, pl. iv. fig. 8; Günth. Cat. Fish. iii. p. 524 (1861).

Centriscus gracilis (part.), Günth. Cat. Fish. iii. p. 521 (1861).

Centriscus brevispinis, Kner & Steind. Sitzungsab. Akad. Wien, liv. 1866, p. 374, pl. iii. fig. 9.

Macrorhamphosus hawaiiensis, Gilb. Bull. U.S. Fish. Comm. f. 1903, p. 613, fig. 237 (1905).

Atlantic and Indo-Pacific.

I have examined small specimens, similar to those described by Pallas, Kner and Steindachner, and Gilbert, from East Africa, the Indian Ocean, China, and the Mediterranean; the last-named do not appear to differ in any respect from the others. There are also some larger examples, up to 85 mm., from Messina, Madeira, and Sierra Leone. The species is close to *M. gracilis*, but has a smaller eye.

2. NOTOPOGON, Regan, 1913.

Supra, p. 14.

1. *Notopogon lilliei*, Regan.

Supra, p. 14.

Centriscops humerosus, McCulloch, 'Endeavour' Fish. p. 24, fig. 5, and pl. ix. (1911).

Southern Australia; New Zealand.

2. *Notopogon schoteli*, M. Weber.

Macrorhamphosus schoteli, Weber, Tijdschr. Nederl. Dierk. Verein. (2) xi. 1910, p. 77, pl. iv.

W. Atlantic, between Bahia and Montevideo.

3. *Notopogon fernandezianus*, Delfin.

Centriscus fernandezianus, Delfin, Rev. Chilen. iii. 1899, p. 76.

Juan Fernandez.

4. *Notopogon xenosoma*, Regan.

Supra, p. 14.

Cape North, New Zealand.

3. CENTRISCOPS, Gill, 1862.

Proc. Acad. Philad. p. 234.

Limiculina, Fowler, Proc. Acad. Philad. lix. 1907, p. 425.

1. *Centriscops sinuosus*, sp. n.

Depth of body equal to length of head, $2\frac{1}{4}$ in length of fish. Diameter of eye equal to interorbital width, less than postorbital length of head or depth of cheek, nearly $\frac{1}{4}$ length of snout. Interorbital region strongly convex, with median ridge. Upper profile sinuous, convex in front of eye and behind head; belly convex. Each dorso-lateral series with 4 large plates. Dorsal VII, 15, the two fins subcontinuous second spine strong, serrated, nearly $\frac{1}{2}$ as long as distance from operculum to caudal, inserted above vent or origin of anal. Anal 17-18. Pectoral as long as head without snout. Caudal truncate. Brownish above, golden below.

Two specimens, 125 and 135 mm. in total length, from New Zealand, presented by the late Captain Hutton; a smaller example (55 mm.) is more slender, the depth being $\frac{1}{3}$ of the length.

This species is very near *C. humerosus*, which has a somewhat longer snout and the dorsal spine placed higher and further back. In the type of *C. humerosus* the distance from the centre of the last bony plate of the upper series to the base of the dorsal spine is more than $\frac{2}{7}$ of that from head to caudal fin, but in *C. sinuosus* only $\frac{1}{5}$ to $\frac{2}{9}$.

2. *Centriscops humerosus*, Richards.

Centriscus humerosus, Richards, 'Erebus' and 'Terror' Fish. p. 56, pl. xxxiv. figs. 5, 6 (1846); Günth. Cat. Fish. iii. p. 522 (1861).

Southern Australia.

In the British Museum only the type, a dried specimen about 130 mm. long.

3. *Centriscops obliquus*, Waite.

Centriscops humerosus obliquus, Waite, Rec. Canterbury Mus. i. 1911, p. 170, pl. xxvi.

New Zealand.

4. *SCOLOPACICHTHYS*, gen. nov.

Scolopacichthys armatus, Sauvage.

Centriscus armatus, Sauvage, Arch. Zool. Expér. viii. 1879, p. 36.

Island of St. Paul.

Evidently generically distinct from *Macrorhamphosus*.



Regan, C. Tate. 1914. "A synopsis of the fishes of the family Macrorhamphosidae." *The Annals and magazine of natural history; zoology, botany, and geology* 13, 17-21.

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