

## The fishes of the genus *Pseudomonacanthus* with descriptions of two new species

By A. FRASER-BRUNNER

In 1934 I received a collection of Monacanthid fishes from the Raffles Museum, Singapore, all of local provenance. Among these was a good series of a species of *Pseudomonacanthus* which appears to be new. The occasion for describing this species presented an opportunity for a revision of the genus, of which the present paper consists.

The Plectognath fishes of the family Monacanthidæ have, in the past, nearly always been divided into three great groups—those with a “movable pelvic spine”, those with a “fixed pelvic spine”, and those with no spine at all. The name *Pseudomonacanthus* has been used to cover the second group by more than one worker who considered these groups as representing genera.

Actually, there is no doubt that the old arrangement was artificial in many ways, and that the Monacanthidæ is comprised of a number of genera, of which *Pseudomonacanthus* is one of the smallest as defined below.

The so-called “fixed pelvic spine” is actually a dermal structure attached to the end of the pelvis, and is referred to in the descriptions which follow as the pelvic shield.

### Genus PSEUDOMONACANTHUS

*Pseudomonacanthus* Bleeker, 1866, Ned. Tyds. Dierk. III, p. 12.

Monacanthids, with first dorsal spine originating over posterior half of eye; the spine with 4 rows of barbs; no deep groove for reception of the spine when depressed. Soft dorsal and anal fins low. Pelvic bone long, not expanded distally. Ventral flap moderately developed, especially in females. Pelvic shield small, spinate; no movable pelvic spine. Form oblong. Scales very small. Dermal filaments more or less developed. Recurved spines sometimes present on caudal peduncle.

Genotype *Monacanthus macrurus* Bleeker.

In this genus, as in most others of the family, sexual dimorphism is apparent, the females having a slightly greater depth of body, higher frontal region of the skull, more declivous profile of snout, and greater development of the ventral flap.

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There are four species, apparently confined to the Indo-Australian region. The genus most nearly related appears to be the Japanese *Rudarius* which differs in the very short, deep form, and in the absence of barbs from the anterior face of the dorsal spine.

KEY TO THE SPECIES OF *Pseudomonacanthus*

- I. Depth of body  $2 \frac{1}{3}$  to  $2 \frac{1}{2}$  in the length.  
Middle rays of caudal fin as long as, or longer than, the head. Dorsal profile of head convex above the eye.
- A. Length of dorsal spine  $6 \frac{1}{4}$  in length of body, the anterior barbs as large as the posterior, about 15. Length of head  $3 \frac{1}{4}$  in length of body. Dorsal rays 32, anal 30. Caudal fins with spots between the rays. Gill opening wider than the eye, entirely below it .. .. . 1. *maynardi*.
- B. Length of dorsal spine less than 6 in length of body, the anterior barbs small and numerous, the posterior ones large, about 10. Length of head  $3 \frac{1}{2}$  to  $3 \frac{5}{6}$  in length of body. Dorsal rays 30-31; anal 27-29. Caudal fin with broad dark edge and median transverse interrupted band.
1. Interorbital width equal to diameter of eye, which is 3 in head. Gill opening wider than eye, almost entirely below it. Caudal peduncle  $2 \frac{1}{4}$ - $2 \frac{1}{2}$  in length of head .. .. . 2. *macrurus*.
2. Interorbital width greater than diameter of eye, which is  $3 \frac{1}{4}$  to  $3 \frac{1}{2}$  in head. Gill opening equal to eye, its lower end well in advance of front of orbit. Caudal peduncle  $2 \frac{1}{2}$ -3 in length of head .. .. . 3. *tweediei*.

- II. Depth of body  $2\frac{7}{8}$  in the length. Middle rays of caudal fin much shorter than the head. Dorsal profile straight above the eye. Length of dorsal spine 8 in length of body, all the barbs small, anterior ones smaller than posterior, numerous. Dorsal rays 30; anal 30. Gill opening entirely anterior to eye. Caudal peduncle 2 in length of head . . . . . 4. *elongatus*.

The measurements given are taken as follows:—Length of body, from tip of snout (exclusive of projecting teeth) to the base of caudal fin; depth of body, from origin of soft dorsal to that of anal; length of head, from tip of snout to upper end of gill opening; caudal peduncle from base of last anal ray to base of outermost lower caudal ray; interdorsal space from immediately behind base of first dorsal spine to origin of soft dorsal.

***Pseudomonacanthus maynardi*. Plate XXIII, 1.**

*Cantherines maynardi* Ogilby 1916, Proc. Roy. Soc. Queensland, XXVIII, p. 114; 1918, Mem. Queensland Mus., VI, p. 89, Pl. XXVI.

Depth of body contained  $2\frac{1}{2}$  times in the length, length of head  $3\frac{1}{4}$  times. Interorbital space equal to diameter of eye, 4 times in length of head. Length of interdorsal space contained  $4\frac{3}{4}$  times in length of body. Length of caudal peduncle contained 3 times in that of head.

Dorsal profile of snout slightly concave, becoming convex above the eye. Gill-opening wider than eye, entirely below it. Length of first dorsal spine contained  $1\frac{3}{4}$  times in that of head,  $6\frac{1}{4}$  times in length of body; the anterior barbs as large as the posterior, downwardly directed, thorn-like; second dorsal spine feeble,  $\frac{1}{3}$  length of first. Soft dorsal fin with 33 simple rays; anal 30. Pectoral 12. Sides with a few sparse threadlike filaments. No spines on caudal peduncle. Ventral flap moderately well developed, pelvic plate small. Caudal fin large, the middle rays  $1\frac{1}{2}$  times length of head.

Pale greyish-brown; sides with sparsely scattered black spots, as large as pupil. Indistinct dusky bands across snout and below soft dorsal fin; two others across chin, and a darker one at throat. Caudal fin dark, with spots at base, between the rays.

*Habitat*: Queensland coast; Torres Straits.

Described from a specimen 135 mm. long, collected between Arnhem Land and New Guinea, W. of Torres Straits, by Lord Moyne, now in the British Museum (Natural History).

This fish differs from the description given by Ogilby in several small particulars, but agrees very well with his figure.

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This is presumably due to the fact that he described a very large example (244 mm.), but figured a different specimen. In any case there is no doubt that all represent the same species.

Judging by the sexual dimorphism seen in other species, Ogilby's figure represents a female. My specimen is a male, and the enlarged caudal fin is very likely a secondary sexual character.

Examination of two specimens received on loan from the Australian Museum appears to confirm this.

**Pseudomonacanthus macrurus.** Plate XXI.

*Monacanthus macrurus* Bleeker, 1857, Nat. Tyd. Ned. Ind., XII, p. 226; Günther, 1870, Cat. Fish Brit. Mus., VIII, p. 247.

*Pseudomonacanthus macrurus* Bleeker, 1865, Atlas Ichth., V, p. 134, pl. ccxxviii, Fig. 1.

*Cantherines macrurus* Jordan and Seale, 1905, Proc. U. S. Nat. Mus., XXVIII, p. 790; Evermann and Seale, 1906, Bull. U. S. Bur. Fish., XXVI, p. 100; Herre, 1924, Philippine Journ. Sci., XXV, no. 4, p. 458.

Depth of body contained  $2\frac{1}{3}$  to  $2\frac{1}{2}$  times in the length, length of head  $3\frac{1}{2}$  to  $3\frac{5}{6}$  times. Interorbital space equal to diameter of eye, 3 times in length of head. Length of interdorsal space contained  $4\frac{1}{4}$  to  $4\frac{1}{2}$  times in length of body. Length of caudal peduncle  $2\frac{1}{4}$  to  $2\frac{1}{2}$  in that of head.

Dorsal profile of snout concave, becoming convex above the eye. Gill opening wider than eye, the lower end but little in advance of front of orbit. Length of first dorsal spine contained  $1\frac{1}{3}$  to  $1\frac{1}{2}$  times in length of head,  $5\frac{1}{4}$  to  $5\frac{3}{4}$  in that of body; the anterior barbs much smaller and more numerous than the posterior, narrow and downwardly directed; posterior barbs thorn-like, about 10 in number. Second dorsal spine feeble, about  $\frac{1}{3}$  length of first. Soft dorsal fin with 31 rays; anal 29. Pectoral 12. Sides with simple dermal filaments, sparsely scattered, variously developed. Ventral flap moderately developed, specially in female. Three strong antrorse curved spines on lower half of caudal peduncle in females. Caudal fin large, the middle rays as long as the head.

Brownish, with numerous small, close-set dark spots. Two or three dark bars across chin, and obscure broad bands on back below soft dorsal. Caudal fin with two dark cross-bands, the first interrupted mesially, the second bordering the fin posteriorly.

*Habitat:* East Indies, Philippines.

Described from three specimens 130–140 mm. long in the British Museum (Nat. Hist.). One, a female, is a paratype from Bleeker's collection. The other two, males, are from the Philippines.

A male and female are figured here in order to show the difference in shape between the sexes. It appears that in this and the succeeding species the spines on the caudal peduncle are confined to the females.

**Pseudomonacanthus tweediei**, sp. n. Plate XXII.

Depth of body contained  $2\frac{1}{3}$  to  $2\frac{1}{2}$  times in the length; length of head  $3\frac{2}{3}$  times. Interorbital space wider than diameter of eye, which is contained  $3\frac{1}{4}$  to  $3\frac{1}{2}$  times in length of head. Length of interdorsal space contained  $4\frac{1}{2}$  to  $4\frac{2}{3}$  times in length of body. Length of caudal peduncle  $2\frac{1}{2}$  to 3 times in that of head.

Dorsal profile of snout concave, becoming convex above the eye. Gill-opening equal to diameter of eye, its upper end below middle of orbit, the lower end well in advance of front margin of eye. Length of first dorsal spine contained  $1\frac{1}{2}$  times in length of head,  $5\frac{3}{4}$  times in length of body; the anterior barbs much smaller and more numerous than the posterior, which are thorn-like, downwardly directed, about 10 in number. Second dorsal spine feeble,  $\frac{1}{3}$  length of first. Soft dorsal fin with 30-31 rays; anal 28-29. Pectoral 12. Sides with simple dermal filaments, variously developed. Ventral flap poorly developed, more so in females. Three strong antrorse curved spines on lower half of caudal peduncle in females. Caudal fin large, the middle rays as long as head.

Brownish; snout and chin with dusky transverse bars, a darker one at throat; indefinite broad cross bands from soft dorsal and anal fins across sides. Sides with numerous close-set dark spots, smaller than pupil. Margin of caudal fin with broad black band; a less distinct, interrupted band between it and base of fin.

*Habitat*: Singapore.

Described from five specimens 80 to 125 mm. long. In addition I have examined six others, 40 to 65 mm. in length.

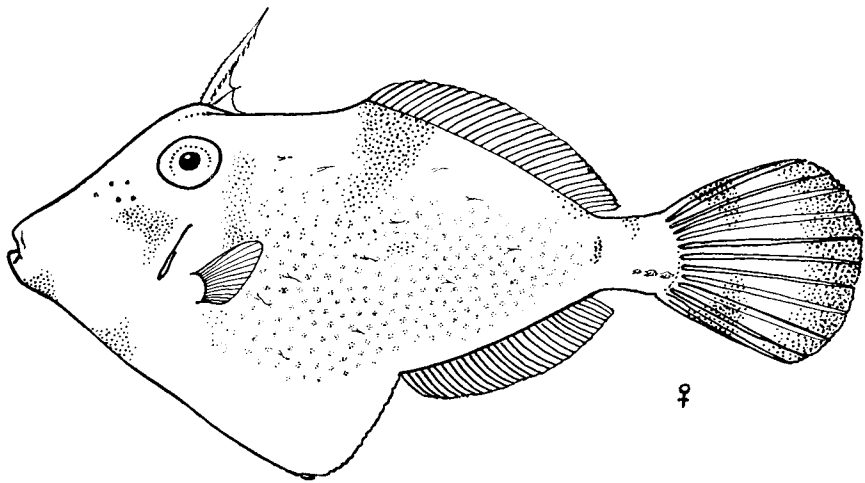
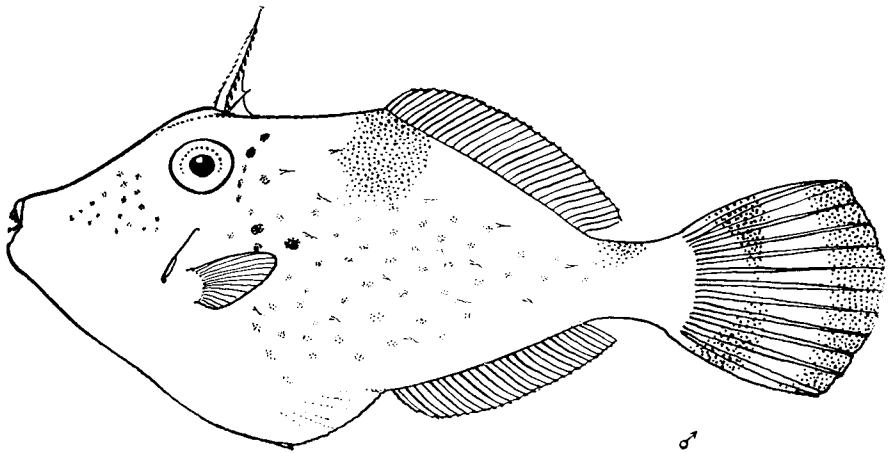
A male and female, 120 to 125 mm. long, are the type specimens, preserved in the British Museum (Natural History).

This is apparently fairly common at Singapore, since with one exception, it was the most numerously represented species in a small collection of Monacanthids sent to me by Mr. M. W. F. Tweedie, Curator of the Raffles Museum, after whom I have much pleasure in naming this fish.

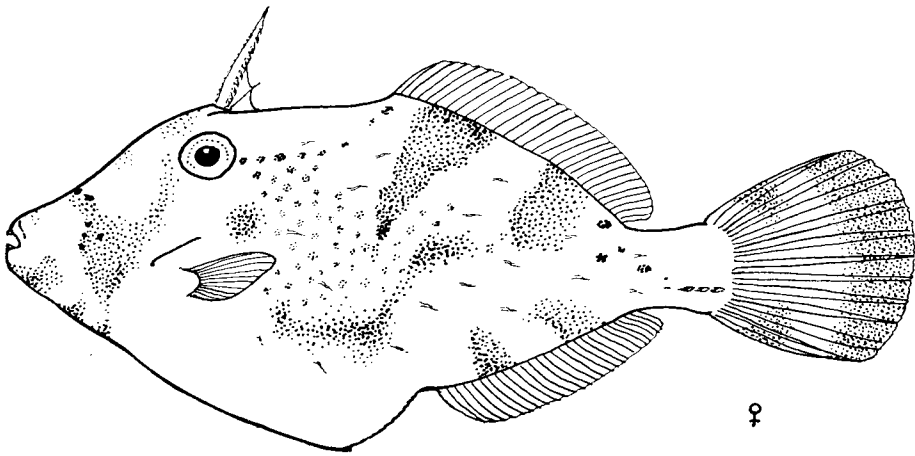
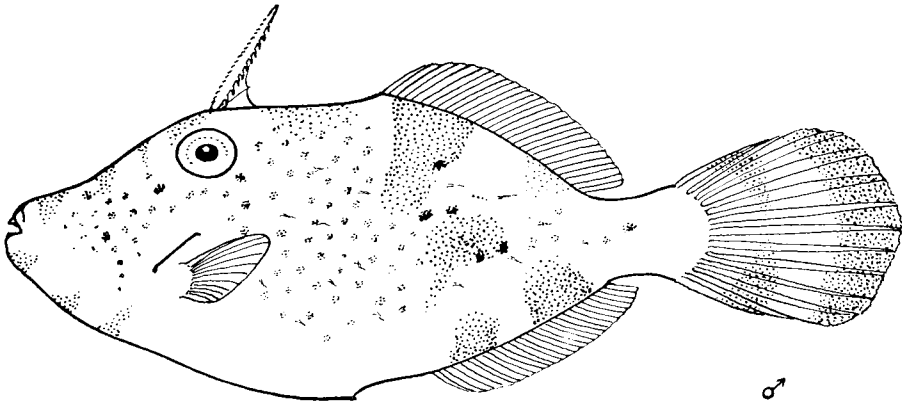
It differs from *P. macrurus* in the smaller eye, wider interorbital space, shorter and more forwardly placed gill-opening, and more slender caudal peduncle. When other material is available, it may prove to be a western sub-species of *P. macrurus*.

**Pseudomonacanthus elongatus** sp. n. Plate XXIII, 2.

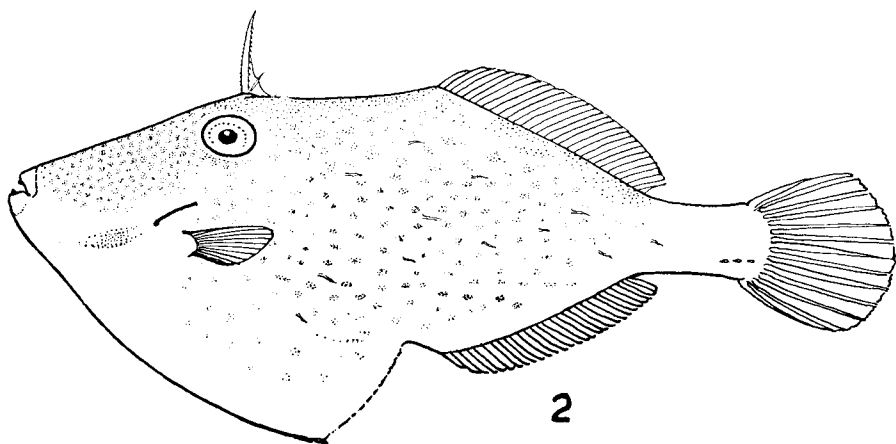
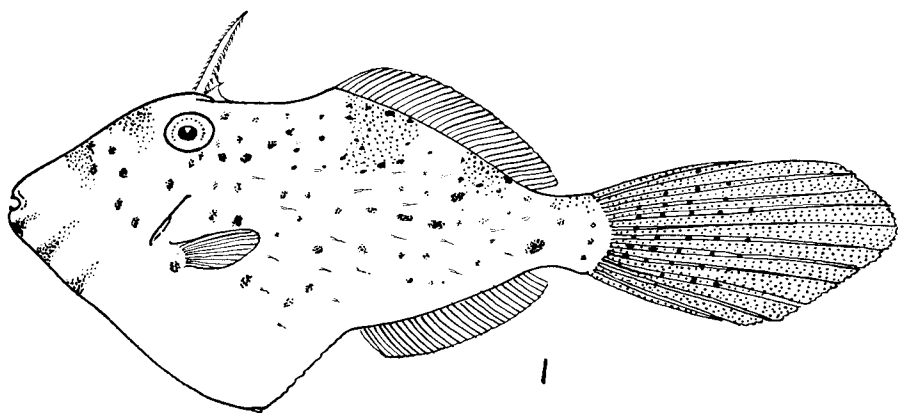
Depth of body contained  $2\frac{7}{8}$  in the length; length of head four times. Diameter of eye contained four times in length of head, equal to interorbital width. Length of interdorsal space contained four times in length of body. Length of caudal peduncle half that of head.



*Pseudomonacanthus macrurus* (Bleeker).



*Pseudomonacanthus tweediei* n.sp.



1. *Pseudomonacanthus maynardi* (Ogilby).
2. *Pseudomonacanthus elongatus* n.sp.



## THE GENUS PSEUDOMONACANTHUS

Dorsal profile straight, from tip of snout to base of first dorsal spine. Gill opening as wide as eye, entirely anterior to it. Length of first dorsal spine contained twice in that of head, eight times in that of body; all the barbs small, the anterior ones compressed and truncate, the posterior ones less numerous, slender, straight, outwardly directed. Second dorsal spine feeble. Soft dorsal fin with 30 rays; anal 30. Pectoral 12. Sides with a few small, simple dermal filaments. Ventral flap well developed. Three small blunt spines on lower half of caudal peduncle. Caudal fin small, the middle rays only half as long as head.

Pale brown; sides with numerous scattered dark spots, smaller than pupil, those on side of snout more regular, very small and close-set. Caudal fin plain.

*Habitat:* Tasmania (?).

Described from a single specimen, 160 mm. long, holotype of the species, collected by W. Saville Kent, and now in the British Museum (Natural History).

This fish was among a number of specimens without locality from the Saville Kent collection, many of which were, without doubt Tasmanian species, so that it seems likely that it was taken at that place.

It differs from all the preceding species in its elongate form, straight profile, the forward position of the gill-opening, and the small caudal fin. Judging by the well-developed ventral flap and the spines on the caudal peduncle, it is a female.