

First Record of the Filefish, *Pseudomonacanthus macrurus* (Bleeker, 1856), from Yoron-jima Island, Ryukyu Islands (Actinopterygii, Tetraodontiformes, Monacanthidae)

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Abstract A 113-mm SL specimen of a filefish, *Pseudomonacanthus macrurus* (Bleeker, 1856), was collected with a dip net at a depth of 1 m off the eastern north coast of Yoron-jima Island, Ryukyu Islands. Although juveniles and young specimens were previously recorded from the southern part of Okinawa-jima Island, Ryukyu Islands, the Yoron-jima specimen represents the first record of an adult of *P. macrurus* from Japan.

Key words: Monacanthidae, Tetraodontiformes, distribution, fauna, Japan.

Introduction

During a survey of the fish fauna of Yoron-jima Island lying in the southern part of Satsunan Group in the Ryukyu Islands, an adult specimen of the filefish, *Pseudomonacanthus macrurus* (Bleeker, 1856), was collected at a depth of 1 m off the eastern north coast of the island. Adults of this filefish have never been recorded from Japan, although juveniles and young specimens were reported by Yoshigou *et al.* (2009) from the southern part of Okinawa-jima Island. The Yoron-jima specimen is described below with taxonomic comments on the genus *Pseudomonacanthus*.

Methods

Counts and measurements followed Matsuura (1980) with the following additions: body width measured between left and right pectoral-fin bases; oblique body depth measured between origins of second dorsal and anal fins; snout to pel-

vic fin measured from tip of upper lip to posterior end of encasing scales. The specimen is deposited at the Kagoshima University Museum (KAUM), and a tissue sample of the specimens is deposited at the National Museum of Nature and Science (NSMT) under the registration number of NSMT-DNA-60524. Total genomic DNA was extracted from a tissue sample of the specimen using the Qiagen Gentra Puregene tissue kit following the manufacturer's protocol. A fragment of the cytochrome oxidase I (COI) gene from the mitochondrial DNA (mtDNA) was amplified and sequenced according to the methods described by Pyle *et al.* (2008).

Pseudomonacanthus macrurus (Bleeker, 1856)

[Japanese name: Kokuten-hagi]

(Fig. 1)

Specimen examined. KAUM-I. 51413, 113 mm SL, 27°03'13"N, 128°27'02"E, Minata, eastern north coast of Yoron-jima Island, Ryukyu Islands, 1 m depth, collected with dip net by Yuki



Fig. 1. *Pseudomonacanthus macrurus*.—KAUM-I. 51413, 113 mm SL, Yoron-jima Island, Ryukyu Islands.

Kimura. DNA: Accession number AB853874 (DDBJ/EMBL/GenBank).

Description. Dorsal-fin rays II + 29, anal-fin rays 28; pectoral-fin rays 12. Body depth 38.1% SL, oblique body depth 40.4% SL, body width 13.3% SL, head length 27.1% SL, snout length 27.1% SL, snout to origin of first dorsal fin origin 35.0% SL, snout to origin of anal fin 62.3% SL, snout to pelvic fin 57.3% SL, length of second dorsal-fin base 37.5% SL, length of anal-fin base 31.9% SL, interdorsal space 25.3% SL, gill opening length 8.5% SL, postorbital length 7.6% SL, eye diameter 9.0% SL, interorbital width 9.6% SL, length of first dorsal spine 18.1% SL, length of longest dorsal-fin ray 11.2% SL, length of longest anal-fin ray 10.4% SL, length of longest pectoral-fin ray 12.0% SL, length of caudal fin 35.1%, caudal peduncle depth 11.7% SL, caudal peduncle length 11.7% SL.

Body relatively elongate and strongly compressed; dorsal contour between mouth and eye concave; interdorsal space slightly concave, its length slightly shorter than snout. Mouth small, slightly superior; lips fleshy; 5 teeth on each upper jaw, 3 in an outer row and 2 teeth medial to these; 2 teeth in a single row on each lower

jaw; all teeth pointed. First dorsal spine relatively strong, its length 1.6 in head length, originating over posterior half of eye, received in a shallow groove when depressed, abnormally curved posteriorly one-fifth of its length from the base, distal part of the first dorsal spine covered with dermal filaments; first dorsal spine armed with 2 series of barbs, anterior side with 17 small downward-directed barbs and postero-lateral corner with 15 downward-directed barbs; second dorsal spine short and hidden in skin. Second dorsal and anal fins almost evenly rounded, anal-fin base slightly shorter than second dorsal-fin base. Pectoral fin short and rounded, located below eye. All rays of second dorsal, anal and pectoral fins unbranched. Caudal fin long and rounded, its length equal to distance between snout and origin of first dorsal spine; caudal fin rays branched. Ventral flap small; pelvic terminus immovable, composed of 2 pairs of encasing scales. Gill opening short and oblique, located below anterior half of eye and extending anteriorly beyond anterior edge of eye.

Short dermal filaments unevenly scattered over head and body. Scales on body small, each with 1 vertical ridge composed of 5–6 upwardly-

directed spinules.

Color. Head and body light brownish gray with many black spots; rays of second dorsal, anal and pectoral fins light brownish yellow; caudal fin light brown with many transverse pale lines, the distal and basal parts of the fin covered by wide, transverse dark bands.

Remarks. The genus *Pseudomonacanthus* Bleeker, 1865, was revised by Fraser-Brunner (1940) who recognized the following 4 species: *Pseudomonacanthus elongatus* Fraser-Brunner, 1940, *P. macrurus* (Bleeker, 1856), *P. maynardi* (Ogilby, 1916), and *P. tweediei* Fraser-Brunner, 1940. Fraser-Brunner's descriptions were based on small number of specimens: 1 specimen of *P. maynardi* (2 additional specimens from the Australian Museum used for his comparison), 3 specimens of *P. macrurus*, 5 specimens of *P. tweediei* and a single specimen of *P. elongatus*. Although he stated that the 4 species were separated by the proportional measurements of various parts of the head and body, the caudal fin length, numbers of rays of second dorsal and anal fins, and the position of the gill opening, the differences among the 4 species are not clear, strongly suggesting that *Pseudomonacanthus* should be taxonomically revised. Hutchins (1977) recognized *P. elongatus* Fraser-Brunner, 1940 as a junior synonym of *P. peroni* (Hollard, 1854).

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