

First Record of the Antrorse Spined Gurnard *Pterygotrigla multiocellata* (Triglidae, Scorpaeniformes) from Korea

Joon Sang Kim¹ and Choon Bok Song^{2*}

¹Fisheries Resources Agency, Jeju Branch, Jeju 63012, Korea

²College of Ocean Sciences, Jeju National University, Jeju 63243, Korea

Abstract

This is the first report of *Pterygotrigla multiocellata* from the family Triglidae, collected in Korea. The specimen (314 mm in standard length) was caught in a gill net in the coastal waters of Jeju Island on 11 February 2010. This species is characterized by the following morphological traits: head large and triangular, bony plates absent along the base of the second dorsal fin, antrorse rostral spine long, and cleithral spine long. We suggest a new Korean name, “*Gin-ppul-mit-seong-dae*” for *P. multiocellata*.

Key words: *Pterygotrigla multiocellata*, Triglidae, First record, Jeju Island, Korea

Introduction

The searobins or gurnards (family Triglidae) are medium-sized benthic fishes typically less than 45 cm in total length, and inhabit tropical and temperate seas to depths of about 200 m (Fischer and Bianchi 1984). They include 10 genera with approximately 105 species worldwide (Nelson, 2006) and three genera with 10 species in Korea (Kim et al., 2005).

The genus *Pterygotrigla* is distributed throughout the Indo-Pacific Ocean including the region from southern Japan to the East China Sea. This genus is characterized by having the base of the first dorsal fin spines, which has expanded into broad, flattened, bony plates, and by the lack of spines or plates along the base of the second dorsal fin (Yamada, 2002). To date, *P. hemisticta* (Temminck and Schlegel, 1843) is the only member of the genus to have been reported in Korea (Kim et al., 2005).

Recently, one specimen of *Pterygotrigla multiocellata* was caught in a gill net in the coastal waters of Jeju Island on 11 February 2010. Here, we describe the morphological characters of *P. multiocellata* as an addition to the list of Korean fishes.

Materials and Methods

The specimen was preserved in 10% formalin for one week and then transferred to 70% ethanol. Counts and measurements followed the methods of Hubbs and Lagler (1964) and Richards et al. (2003). The specimen was deposited at the Fish Genetics and Breeding Laboratory of Jeju National University (JNU), Korea.

Results and Discussion

Pterygotrigla multiocellata (Matsubara, 1937)

(Fig. 1; Table 1)

(New Korean name: *Gin-ppul-mit-seong-dae*)

Parapterygotrigla multiocellata Matsubara, 1937: 266 (type locality: Kumano-Nada, southeast of Kii Peninsula, Japan)

Pterygotrigla multiocellata: Shinohara et al., 2001: 317 (Tosa Bay, Japan); Myers and Donaldson, 2003: 619 (Mariana Island); Shinohara et al., 2005: 426 (Ryukyu Island, Japan).

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*Corresponding Author

E-mail: cbsong@jejunu.ac.kr



Fig. 1. *Pterygotrigla multiocellata*, JNU-1308, 314.0 mm SL, gill net, off south Seogwipo, Jeju Island, Korea.

Material examined

JNU-1308, 314.0 mm standard length (SL), caught with a gill net off south Seogwipo, Jeju Island, Korea, 11 February 2010.

Description

Table 1 lists the counts and measurements of the morphological traits of the specimen. Counts are as follows: dorsal fin rays, VII, 12; anal fin rays, 12; pectoral fin rays, 15; ventral fin rays, I, 5; caudal fin rays, 12; lateral line scales, 60; gill rakers, 2+13. Measurements as a percentage of SL are as follows:

body depth, 23.4; head length, 35.4; upper jaw length, 14.1; snout length, 14.2; interorbital width, 11.0; eye diameter, 11.0; length of rostral spine, 17.3; first predorsal fin length, 40.0; second predorsal fin length, 65.1; prepectoral fin length, 34.0; preanal fin length, 62.1; preventral fin length, 33.0; first dorsal fin base length, 20.4; second dorsal fin base length, 24.9; pectoral fin base length, 7.2; anal fin base length, 29.6; ventral fin base length, 4.7; length of longest dorsal fin ray, 15.1; length of longest pectoral fin ray, 46.0; length of longest ventral fin ray, 24.5; caudal peduncle length, 11.2; caudal peduncle depth, 5.4. Measurements as a percentage of head length (HL) are as follows: snout length, 40.2; upper jaw length, 39.9; eye diameter, 31.0; interorbital width, 31.0; length of rostral spine, 49.0.

Table 1. Comparison of morphological characters of *Pterygotrigla multiocellata*

Morphological characters	Present study	Matsubara (1937)	Okamura et al. (1985)
Standard length (mm)	314.0	276.0	217.0
Number of specimens	1	1	1
In % of standard length			
Head length	35.4	-	35.7
Body depth	23.4	-	18.9
Length of caudal peduncle	11.2	-	15.2
In % of head length			
Rostral projection	49.0	-	55.6
Snout	40.2	-	47.6
Upper jaw	39.9	-	37.0
Eye diameter	31.0	-	26.3
Interorbital width	31.0	-	27.8
Counts			
Dorsal fin rays	VII, 12	VII, 11	VII, 11
Pectoral fin rays	15	-	15
Ventral fin rays	I, 5	-	I, 5
Anal fin rays	12	I, 11	12
Caudal fin rays	12	-	-
Gill rakers	2 + 13	2 + 11	-
Lateral line scales	60	53	62

Body elongated; anterior body large, became smaller backward; head and caudal triangular; head large without scales; eye large and projected outside, located above head; no spines around orbit; rostral spine very long; a pair of nasal spines located at middle of snout; preopercle and opercular spines short; nuchal spine long and sharp, almost reaching to base of second dorsal fin; mouth size almost the same as eye diameter; vomer with a patch of villiform teeth; interorbital space somewhat deeply concave; cleithral spine very long, arriving nearly to base of sixth dorsal fin; base of first dorsal fin with ten large and smooth flat plates; pectoral fin very long, with three lowermost rays free and detached from the remaining fin rays.

Color when fresh

Body overall reddish with sparse small yellow and green spots on upper half; belly and below head white; pectoral fin black with greenish yellow blotched pattern, except white part of bone; detached pectoral fins dark reddish; dorsal fins reddish with small green spots; ventral and caudal fins reddish; anal fin white.

Color after preservation

Head and dorsal part of body brown but white ventrally; pectoral fin black except white part of bone; detached pectoral fins white; all fins white; indistinct and pale spots present on upper half.

Distribution

Known from the Western Pacific: New Caledonia (Del Cerro and Lloris, 1997), Mariana Island (Myers and Donaldson, 2003), the South China Sea (Randall and Lim, 2000), Japan (Matsubara, 1937; Yamada, 2002) and Korea (Jeju Island, present study).

Remarks

The present specimen, collected from the coastal waters of Korea, agrees well in its morphological characters with previous reports on *P. multiocellata* (Matsubara, 1937; Okamura et al., 1985). For example, it has no body plates along the second dorsal fin, a long rostral spine, and a long cleithral spine. However, there are exceptions in some meristic characters, such as the number of dorsal fin rays and lateral line scales (Table 1), which are likely due to intra-specific variation.

P. multiocellata is morphologically very similar to *Pterygotrigla macrorhynchus* which is known to inhabit Tosa Bay, off Kumano-Nada, and the East China Sea (Yamada, 2002). However, the former can be distinguished by its relatively long cleithral spine behind the head in contrast to the short spine on *P. macrorhynchus* (Yamada, 2002). In addition, *P.*

multiocellata is easily distinguished from *P. hemisticta*, which is also found in the coastal waters of Jeju Island, Korea, as it has much longer rostral spines than *P. hemisticta* and lacks a large dark spot on the first dorsal fin (Okamura et al., 1985). We suggest the new Korean name, “Gin-ppul-mit-seong-dae” for *P. multiocellata*.

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