

First Record of the Black Snook *Thyrsitoides marleyi* (Pisces: Gempylidae) from Korea

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Abstract

A single specimen of *Thyrsitoides marleyi* (818 mm in standard length), belonging to the family Gempylidae, was collected for the first time in Korea from the coastal waters off Busan, Korea using longline with hooks on 27 January 2012. This species is characterized by the following morphological traits: palate with three fangs, dark dorsal spine membrane, ending part of soft dorsal and anal fin rays finlet-like, and tip of the jaw with a cartilaginous process. We suggest a new Korean name “Gal-chi-ggo-chi” for *T. marleyi*.

Key words: First record, *Thyrsitoides marleyi*, Gempylidae, Korea, Jeju Island

Introduction

The family Gempylidae, which is comprised of 16 genera with about 24 species, is widely distributed in tropical and subtropical seas worldwide (Nelson, 2006). This family is characterized by having an oblong and compressed body, a protruding lower jaw, and isolated finlets present behind the dorsal and anal fins (Nelson, 2006). Within the family, the genus *Thyrsitoides* includes only one species worldwide and is morphologically characterized by XVII to XIX dorsal fin spines, dermal processes on the jaws, and a lower lateral line running along the middle of the body (Nakamura and Parin, 1993).

In Korea, one species, *Rexea prometheoides* in the family Gempylidae has been reported to date (Kim et al., 2005). A single specimen of *Thyrsitoides marleyi*, belonging to the family Gempylidae, was collected by hook for commercial longline fisheries in the coastal waters off Busan, Korea, on 27 January 2012.

The specimen examined was preserved in 10% formalin for 1 month and then preserved in 80% ethanol. The morphological characters of *T. marleyi* are herein described in detail based on a single specimen. Counts and measurements were followed the methods of Hubbs and Lagler (2004). The examined specimen was deposited at the Fisheries Resource Management Division, National Fisheries Sciences and Development Institute (NFRDI), Korea.

Results and Discussion

Thyrsitoides Fowler, 1929

(New Korean genus name: Gal-chi-ggo-chi-sok)

Thyrsitoides Fowler, 1929: 381 (type species: *Thyrsitoides marleyi* Fowler, 1929).

Thyrsitoides marleyi Fowler, 1929 (Table 1, Fig. 1)

(New Korean name: Gal-chi-ggo-chi)

Materials and Methods

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Fig. 1. *Thyrsitoides marleyi* Fowler, 1926, NFRDI 20120127, 818.0 mm standard length, longline, Dadaepo, Busan, Korea.



Fig. 2. Branched lateral line.

Thyrsitoides marleyi: 1929: 256 (type locality: KwaZulu-Natal, South Africa); Randall and Lim 2000: 643 (South China Sea); Nakabo in Nakabo 2002: 600 (Japan).

Material examined

NFRDI 20120127, 818.0 mm standard length (SL), longline, Dadaepo, Busan, Korea. 27 January 2012.

Description

Counts and measurements of the present specimen are shown in Table 1.

Body much elongated and compressed; body covered with tiny cycloid scales; dorsal profile of head sloping gently; head large; mouth and eyes large; lower jaw sharply pointed, projecting in front of upper jaw and extending below to one-third of eye; tip of each jaw with a small cartilaginous process; three fangs (two fangs on right side and one fang on left side) of upper jaw; both jaws with a single series of canine-like, compressed teeth; no tooth on vomer; dorsal fin starts above angle of opercle, second dorsal spine slightly longer than first one; dorsal fin rays and anal fin rays opposite each; posterior dorsal and anal soft rays finlet-like connected to each other by the membrane; pelvic fin base located behind pectoral base. Lateral line starts above angle of opercle and bifurcates slightly behind first dorsal spine (Fig. 2); upper line runs along dorsal profile of body to the point of thirteenth dorsal spine,

lower line forth dorsal spine along middle of body to caudal base; caudal fin deeply forked; a keel-like process at base of upper and lower caudal fin lobes.

Color when fresh: Body entirely dark silver; first dorsal fin membranes black; pectoral, anal and caudal fins dark, but pelvic fin pale grayish.

Color in alcohol: Body dark brown above, pale silvery white below; first dorsal fin membranes black; all fins darkened.

Distribution

Widely known from Indo-West Pacific Ocean: Korea (present study), Japan, Kyusyu-Palau Ridge, Taiwan, New Caledonia, New Hebrides, Malacca Straits, Andaman Sea, western Australia, around Madagascar, La Reunion, east coast of South Africa and Red Sea (Nakamura and Parin, 1993).

Remarks

The present specimen was characterized by a much elongated and compressed body, branched lateral line, dark first dorsal spine membranes, and lower jaw projecting in front of upper jaw). In addition, the morphological characteristics of the present specimen agreed well with those in previous reports of *Thyrsitoides marleyi* (Nakabo, 2002) (Table 1).

Thyrsitoides marleyi is morphologically similar to *Rexea prometheoides* (Bleeker, 1843) and inhabits the coastal waters of Jeju Island, Korea. The former is easily distinguished from the latter in having the pelvic fin with I spine, 5 soft rays (vs. I or no spines, and no rays for *R. prometheoides*), a slender body (vs. not slender), and the upper lateral line not reaching the posterior end of the first dorsal fin base (vs. extending beyond) (Nakabo, 2002). We suggest a new Korean name “Gal-chi-ggo-chi” for *T. marleyi*.

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Table 1. Comparison of counts and measurements of *Thyrsitoides marleyi*

Morphological characters	Present study	Machidae (1985)	Nakamura (1980)	Gon (1987)
Total length (mm)	976.0	-	794.8	1,700
Fork length	873.0	-	717.7	1,573
Standard length (SL)	818.0 (<i>n</i> = 1)	471 (<i>n</i> = 1)	688.9 (<i>n</i> = 1)	1,483 (<i>n</i> = 1)
Counts				
Dorsal fins	XVIII, i, 11+6	XVIII, i, 11+6	XVIII, i, 17	XVIII, i, 12+6
Pectoral fin rays	I, 13	I, 13	i, 14	14-15
Ventral fin rays	II, 4	II, 4	I, 5	II, 4
Anal fin rays	II, 17	II, 17	ii, 16	II, 12+5
Vertebrae	34	-	-	-
Measurements (% SL)				
Body depth	10.7	1.7	11.0	-
Body width	5.6	4.7	5.4	-
Head length	26.6	25.7	24.8	-
Predorsal fin length	24.3	23.9	23.1	-
Prepectoral fin length	26.5	-	25.2	-
Prepelvic fin length	29.6	30.1	29.5	-
Preal anal fin length	78.0	78.1	76.6	-
Upper jaw length	11.3	-	11.3	-
Lower jaw length	12.8	-	-	-
Snout length	10.6	-	11.1	-
Interorbital length	4.1	-	3.9	-
Eye diameter	3.7	-	3.8	-
Caudal peduncle length	3.9	-	6.1	-
Caudal peduncle depth	3.1	-	3.1	-
Pectoral fin length	10.2	-	10.5	-
Pelvic fin length	6.0	-	6.4	-
Height of anal fin length	7.7	-	-	-
Height of dorsal fin length	8.2	-	-	-

A number in the parenthesis denotes the number of examined specimens.

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