

First Record of the Jawfish, *Opistognathus iyonis* (Opistognathidae, Perciformes) from Korea

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Two specimens of *Opistognathus iyonis* of Family Opistognathidae were collected for the first time at Chwasari Islands, Yokchi-myon, Tongyong-shi, Kyongsangnam-do, Korea. Specimens were caught by fishing on June and Oct. 1998. *Opistognathus iyonis* was characterized by having large mouth, big eye located anterior part of the head, large black spot on the dorsal fin and lateral line running close below base of dorsal fin. A new Korean name "Huk-Jom-Hu-Ak-Chi" is proposed for this species.

Key words : *Opistognathus iyonis*, jawfish, Opistognathidae

Introduction

The family Opistognathidae (Perciformes) which has around 40 species was widely distributed in the temperate, subtropical Indo-Pacific Ocean (Smith-Vaniz and Yoshino, 1985; Lee *et al.*, 1999).

The species of the this family ranged from 5 to 25 cm in total length and live not only shallow estuaries area with ground and rocky bottom coastal but also deep sea with above 100 m depth sand-mud bottom. This family has characterized by large mouth, cycloid scales on the body, naked head, one dorsal fin with 9~12 dorsal spines and high lateral line ending near middle of dorsal fin (Nelson, 1994) and has interesting behavior such as obligatory burrow-dwelling and oral incubation of eggs, but they are very poorly known for their life history (Smith-Vanis and Yoshino, 1985).

The first description of this species was done with the specimens collected from Japan waters at 1913. Genus name of this species substitute *Merogymnus* (Kamohara, 1956) for *Gnathypops* (Jordan and Thompson, 1913) and afterward they are used as *Opistognathus* (Kimura

and Suzuki, 1982).

Specimens of Jawfish, *Opistognathus iyonis* in this study were collected for the first time at Chwasari Islands, Yokchi-myon, Tongyong-shi, Kyongsangnam-do, Korea, by fishing ca. 20 m depth on June and Oct. 1998.

Counts and measurements follow Kim (1978). The examined specimens were deposited at the Department of Marine Biology, Pukyong National University (MBPNU), Pusan, Korea.

Family Opistognathidae

(Korean name: Hu-Ak-Chi-kwa)

Genus *Opistognathus* Cuvier, 1816

(New Korean name: Hu-Ak-Chi-sok)

Opistognathus iyonis (Jordan and Thompson, 1913)

(New Korean name: Huk-Jom-Hu-Ak-Chi)
(Fig. 1)

Gnathypops iyonis Jordan and Thompson, 1913, 65, fig. 1 (orig. descr.: Yawatahama, Iyo, Japan).

Merogymnus iyonis Kamohara, 1956, 2 (brief descr.; Mimase); Kamohara, 1958, 68 (listed;

Fig. 1. Lateral view of *Opistognathus iyonis*, 82.7 mm in total length, collected from Chwasari Islands, Kyung-sangnam-do, Korea. Scale bar indicates 10 mm.

Fig. 2. Diagram showing the shape of lateral line (LL) and scales on the body (Sc) of *Opistognathus iyonis*.

Kochi Pref.); Honma, 1957, 110 (brief descr.; Echigo Prov.); Katayama and Fujioka, 1958, 1156, fig. 5 (brief descr.; Yamaguchi Pref.)
Opistognathus iyonis Kimura and Suzuki, 1982, 10, fig. 11 (brief descr.; Goza, Mie Pref.)
Opistognathus iyonis Yoshino in Masuda *et al.*, 1984, 200, pl. 191-E (brief descr.; Japan).

Material examined: MBPNU 980629, 981014, Two specimens 82.7 mm and 76.9 mm in total length (TL), Chwasari Islands, Tongyong, Kyung-sangnam-do, Korea (34° 33' 50"N; 128° 20' 75"E), June 29th and Oct. 14, 1998.

Description: Dorsal fin rays XI, 13; anal fin rays II, 12~14; pelvic fin rays I, 5; pectoral fin rays 19; scales in lateral series 45~46; gill rakers on the first arch 11+23.

In percentages to body length, head length 31.4~33.2%; body depth 21.1~25.7%; preanal length 52.6~54.0%; caudal peduncle length 10.0~11.0%; caudal peduncle depth 7.4~8.9%.

In percentages to head length, eye diameter 23.6~26.9%; snout length 14.1~14.3%, upper jaw length 70.0~73.1%; caudal peduncle depth 32.0~33.5%.

Body long and round, mouth very large and posterior margin of premaxillary reaches middle part of head. Big eye located anterior part front of head.

Body with 45 or 46 oblique scales rows in longitudinal series and lateral line running close below base of dorsal fin ending near 6th dorsal soft fin rays. Except infrontal area of pectoral fin and marginal area of abdomen, body covered with large scales (Fig. 2).

Body color in life: Green back with dark brown spot pattern, pale yellow abdomen. Top of head dark green. Yellow dorsal fin with a large black oval spot margined with white between 5th to 8th spine. Yellow band on dorsal, anal fin and caudal fin margin. Inner lining of the posterior tip of upper jaw with dark blotch.

Distribution: This species is known at the southern Japan. Our two specimens extend the species' geographical range to the southern Korean waters.

Remarks: External features of this family are similar to Gobiidae and Blennidae in having large head and round shape body, but this species differ from the both group by one dorsal fin, by

Table 1. Morphological measurements and counts of *Opistognathus iyonis* collected from Chwasari Islands, Kyongsangnam-do, Korea

Characters	Present study		Jordan and Thompson (1913)	Nakabo (1993)
	MBPNU 980629	MBPNU 981014		
Number of specimens	1	1	1*	
Total length (mm)	82.7	76.9	74.0	70.0
Body length (mm)	68.4	64.7		
As % of body length				
Head length	33.2	31.4	29.4	
Body depth	25.7	21.1	23.3	
Preanal length	54.0	52.6		
Caudal peduncle length	11.0	10.0		
Caudal peduncle depth	8.9	7.4		
Eye diameter				
As % of head length				
Eye diameter	26.9	23.6	25.0	
Snout length	14.1	14.3	18.2	
Upper jaw length	73.1	70.0	76.9	
Caudal peduncle depth	33.5	32.0	31.3	
Meristic characters				
Dorsal fin rays	XI, 13	XI, 13	XI, 13	XI, 13-14
Anal fin rays	II, 12	II, 14	II, 14	II, 13-14
Pelvic fin rays	I, 5	I, 5		I, 5
Pectoral fin rays	19	19		19-20
Caudal fin rays	16	16		
Scales in lateral series	45	46	47	47-49
Gill rakers	11+23	11+23	10+21	10+19-20

* The specimen collected at Yawatahama, Shikoku, Japan

two separated pelvic fins with Gobiidae, by large mouth and scales on body with Blennidae.

Opistognathus iyonis is distinguishable from all other known species in Japan, such as *Opistognathus hopkinsi* and *O. evermanni* of Opistognathidae by the much smaller outer teeth, by the peculiar coloration and the measurements (Jordan and Thomson, 1913).

In Korea, *Opistognathus latitabunda* (Korean name: Kheun-Ib-Hu-Ak-Chi) which collected at the coast of Indonesia was reported by Lee *et al.* (1999).

Table 1 showed the counts and measurements from this specimens compared with the other data. Except for head length, snouth length, upper jaw length and the number of gill raker, most characters of the present specimens agree well with the original description (Table 1) and figure of this species (Jordan and Thompson, 1913).

The number of gill rakers of this specimens was 11+23 instead of 10+21 of original specimen (Jordan and Thomson, 1913). We wonder this difference as intraspecific variation or the

difference from other population, but think need more specimens for the detail comparison in the future.

Jaw fishes, Opistognathidae were known the fishes living in vertical burrows (Masuda *et al.*, 1984). But the present specimens were caught at rocky bottom in at Chwasari Islands, Yokchi-myon, Tongyong-shi, Kyongsangnam-do, Korea. From this, at least, we regard that this species live not only at the mud and sand bottom but also rocky bottom in shallow coastal waters, 15 ~ 30 m depth.

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한국산 Opisthognathidae (후악치과) 어류의 1 미기록종 *Opisthognathus iyonis*에 대하여

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1998년 6월, 10월에 경상남도 통영군 좌사리제도 부근 수심 10~30 m에서 낚시로 채포한 한국 미기록 어종에 대하여 보고한다. 채집된 개체의 전장은 82.7 mm, 76.9 mm로서 체형은 원통형이며 등 쪽은 연록색 바탕에 불규칙한 갈색 무늬를 가지며 배 쪽은 옅은 황색을 띤다. 눈과 입이 매우 크며, 옆줄은 등지느러미 기저 부근에 위치하며 등지느러미의 줄기부 중앙 아래까지 이어진다.

우리 나라에서는 처음으로 발견된 이 종은 Opisthognathidae(후악치과)에 속하고 *Opisthognathus iyonis*로 동정되었으며, 입이 크고 등지느러미에 검은 점을 가진 특징으로서 “흑점후악치”로 명명하고자 한다.