

First Record of Blennioid Fish, *Omobranchus fasciolatoceps* (Blenniiformes: Blenniidae), from Geoje Island, Korea

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ABSTRACT Two specimens of *Omobranchus fasciolatoceps* (33.8~46.7 mm SL) were collected from oyster reefs of Osu-ri, Geoje-myeon, Geoje-si, Gyeongsangnam-do, Korea. This species is characterized by having 32~34 dorsal fin rays, 24~25 anal fin rays, 13 pectoral fin rays, 2 interorbital pores, 8 circumorbital pores, 5~7 lateral line tubes, fleshy crest on head and sexual dimorphism in female that have lost the posterior canines in both jaw. We propose the new Korean name, "Ppul-be-do-ra-chi", for the species.

Key words: Blenniidae, *Omobranchus fasciolatoceps*, first record, Geoje Island, Korea

INTRODUCTION

The Genus *Omobranchus* Ehrenberg in Valenciennes in Cuvier and Valenciennes, 1836 have been recognized total 21 species in worldwide (Nelson *et al.*, 2016). Until the present, only 3 species of the genus *Omobranchus* have been reported in Korea as follow: *O. elegans* (Steindachner, 1876); *O. loxozonus* (Jordan and Starks, 1906); *O. punctatus* (Valenciennes, 1836) (Kim and An, 2010; NIBR 2021).

During fish survey of estuary where bed structure made of coarse sand, mud and dead oyster shells, we collected the male-female pair blennioid fish of genus *Omobranchus* from Geoje-si, Korea. These species identified as a *Omobranchus fasciolatoceps* (Richardson, 1846) by morphological characters that 2 interorbital pores, fleshy occipital crest on the head, and sexual dimorphism in female that have lost the posterior canines in both jaw (Springer and Gomon, 1975). Therefore, we described *O. fasciolatoceps* as the first record from Korea.

MATERIALS AND METHODS

Specimens are fixed in 10% formalin thereafter pre-

served in 70% ethanol. Methods of counting and measurements followed Hubbs and Lagler (2004) and expressed in percentage of standard length (SL) or head length (HL). Additionally counting cephalic sensory pores and lateral-line tubes followed Springer and Gomon (1975). The vouchers are deposited at the SOKN Institute of Ecology and Conservation, Inc., Korea.

TAXONOMIC ACCOUNTS

Omobranchus fasciolatoceps (Richardson, 1846)

(New Korean name: Ppul-be-do-ra-chi)

(Figs. 1~3; Table 1)

Blennius? fasciolatoceps Richardson, 1846: 265 (type locality: Macao).

Omobranchus fasciolatoceps (Richardson, 1846), Springer, 1972: 14; Springer and Gomon 1975: 33 (China, Hong Kong, Japan); Yoshino *et al.*, 1984: 265; Nakabo, 2013: 1112 (Japan); Kobayashi *et al.*, 2018: 196 (Japan).

Material examined. 2 specimens: SOKN-P1221~1222, 33.8~46.7 mm SL, Osu-ri, Geoje-myeon, Geoje-si, Gyeongsangnam-do, Korea, May 2021, collected by Seung-Ho Choi and Min-Soo Kim.

Description. Meristic character counts are shown in Table 1. Dorsal fin spines 12; Segmented dorsal fin rays 20~22; Total dorsal fin rays 32~34; anal fin rays 24~25; pectoral

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Fig. 1. Lateral view of adult female *Omobranchus fasciolatoceps* (SOKN-P1221, 46.7 mm SL) collected from the Osu-ri, Geoje-myeon, Geoje-si, Gyeongsangnam-do, Korea. A: fresh, B: preserved.



Fig. 2. Habitat of *O. fasciolatoceps*, oyster reefs. Osu-ri, Geoje-myeon, Geoje-si, Gyeongsangnam-do, Korea.

fin rays 13; pelvic fin rays I, 2; dorsal + ventral procurrent caudal fin rays 12; segmented caudal fin rays 13; interorbital pores 2; circumorbital pores 8; lateral line tubes 5~7; lateral line tubes below dorsal fin 7~10; upper jaw teeth 25~27; lower jaw teeth 25~33.

Measurements in % of SL: head length 25.1~25.3; body depth 21.9~26.3; pre-dorsal length 21.8~23.7; pre-anal

length 47.0~49.9; pre-pelvic length 20.3~26.6; dorsal fin base 72.5~77.9; anal fin base 44.5~45.9; pectoral fin length 21.6~22.7; pelvic fin length 11.2~15.4; caudal fin length 17.1~18.3; caudal peduncle length 7.7~8.4; caudal peduncle depth 8.3~8.8. Measurements in % of HL: snout length 18.6~24.7; eye diameter 20.3~25.9; interorbital width 11.9~12.9.

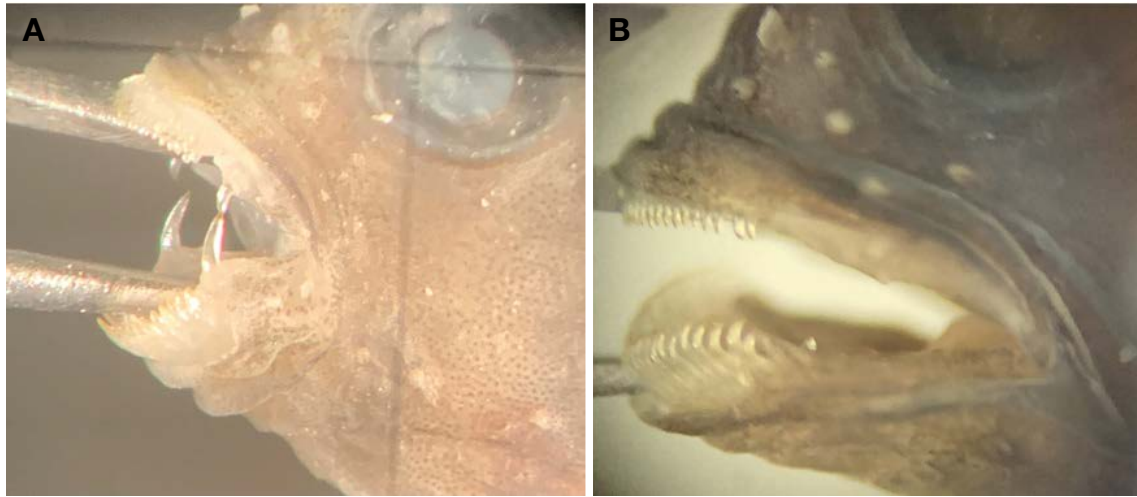


Fig. 3. Sexual dimorphism of posterior canines (A. male, SOKN-P1222; B. female, SOKN-P1221).

Table 1. Comparison of meristic counts of *O. fasciolatoceps* (P = present)

	Present specimens	Springer and Gomom (1975)	Nakabo (2013)
Standard length (mm)	33.8~46.7 (n=2)	32.5~63.4 (n=21)	
Dorsal fin spines	12	12	12
Segmented dorsal fin rays	20~22	19~22	20~21
Total dorsal fin rays	32~34	31~34	32~33
Anal fin rays	24~25	22~24	24~26
Pectoral fin rays	13		13
Pelvic fin rays	I, 2		I, 2
Dorsal + Ventral procurrent caudal fin rays	12	11~13	
Segmented caudal fin rays	13	12~13	13
Interorbital pores	2	2~3	
Circumorbital pores	8	7~8	
Lateral line tubes	5~7	3~8	
Lateral line tubes below dorsal fin spine	7~10	5~10	
Upper jaw teeth	25~27	24~35	
Lower jaw teeth	25~33	26~48	
Fleshy crest on head	P	P	P

Body lateral compressed and oblong. Fleshy crest on the head. Four narrow band on head. Second band starts top of fleshy crest and divaricate under eye. Eye moderate and round. Mouth small and maxilla extending to anterior border of eye. Dark oval spot located posterior to the eye. Upper jaw protrude slightly more than lower jaw. Long drawn conical teeth on both jaws. Female lost the posterior canines in both jaws but male have. Large flap of skin present each side lower jaw. Lateral line tubes extending posteriorly to below level of dorsal fin spine. Dorsal fin base longer than anal fin base. Origin of dorsal fin slight

more forward pectoral fin base. Origin of anal fin located right behind cloaca. Caudal fin round.

Coloration when fresh. Male body color darker than female. Head yellowish background with four dark brown bands. Middle area of the third band distinct oviform spot. Body generally yellow and more transparent towards caudal peduncle. Abdominal region pale green. Dark spots densely on base of dorsal fin membrane. Pectoral, anal, and caudal fins transparent.

Coloration of preserved specimen. Ground color of head and body pale gray. More darker anterior than posterior.

Head bars the same as in life. Ventral region nearly white. 10~13 dim vertical brown band on lateral side of body. All fin membranes translucent.

Ecological notes. Habitat condition of *O. fasciolatoceps* is estuary, brackish water, shallow water depth and oyster shell (Springer and Gomon, 1975; Kobayashi *et al.*, 2018). All specimens in this study were collected under the same conditions as above stated.

Distribution. Known from China (Macao, Xiamen), Hong Kong, Japan, Taiwan (Springer and Gomon, 1975; Yoshino, 1984; Nakabo, 2013) and Korea (Geoje-si, Gyeongsangnam-do: present study).

Remarks. As stated in Springer (1972) and Springer and Gomon (1975), the characters of genus *Omobranchus* are as follow: Dorsal fin spines 10~14; segmented dorsal fin rays 16~26; total dorsal fin rays 28~37; anal fin rays 20~29; pectoral fin 12~14; pelvic fin rays I, 2; interorbital pores 1~4; circumorbital pores 6~10; gill limitedly opened only near the pectoral fin base. The present specimens collected from Geoje Island, Korea matched well characters of above (genus *Omobranchus*). Upon examination of those specimens, we identified as *O. fasciolatoceps* by the well-developed bladelike crest on top of the head, possession of 2 interorbital pores, and lack of posterior canines in mature female (Springer and Gomon, 1975). These features separate *O. fasciolatoceps* from all the genus *Omobranchus* species; *O. aurosplendidus*, *O. elongatus*, *O. elegans*, *O. ferox*, *O. germaini*, *O. loxozonus*, *O. punctatus* (Springer and Gomon, 1975). Among them, *O. elegans* is similar to *O. fasciolatoceps*, but the former has fewer lateral line tubes than the latter (0~1 vs. 3~8). Also, *O. aurosplendidus* has a fleshy crest, but it has 3 interorbital pores and fewer lateral line tubes than *O. fasciolatoceps* (0~2 vs. 3~8). The other species have 3, rarely 2 or 4, introrbital pores, and no crest (Springer and Gomon, 1975).

We propose the new Korean name “Ppul-be-do-ra-chi” referred to fleshy crest on head.

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우리나라 거제도 연안에서 채집된 청베도라치과 (베도라치목) 첫기록종, *Omobranchus fasciolatoceps*

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요 약 : 우리나라 경상남도 거제시 연안 하구의 암석표면의 굴껍질 속에 서식하는 청베도라치과 미기록종 *Omobranchus fasciolatoceps* 암수 총 2개체(체장 33.8~46.7 mm)를 채집하였다. 본 종은 등지느러미 기조수 32~34개, 뒷지느러미 기조수 24~25개, 가슴지느러미 기조수 13개, 양안 사이 2개의 감각공, 눈 주변으로 8개의 감각공, 5~7개의 튜브 모양의 측선공, 머리위의 벚, 암컷의 경우 양턱에 송곳니가 없는 성적이형을 나타낸다. 본 종의 한국 명으로는 머리위의 벚이 있는 형태적 특성에 따라 ‘빨베도라치’를 제안한다.

찾아보기 낱말 : 청베도라치과, 빨베도라치, *Omobranchus fasciolatoceps*, 첫기록종, 거제도