

A New Record of the Gobioid Fish, *Pterogobius zacalles* From Korea

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A gobioid fish, *Pterogobius zacalles* is described from three specimens collected in Songjong-dong, Pusan-si, on February 10, 1989. This is the first definitive record in Korean waters. This fish is distinguished from the other species of the genus *Pterogobius* by the combination of the following characters: lateral-line scales > 113, soft dorsal fin rays VIII, I-24~25, soft anal fin rays I-24~25, and 5 dark-brown vertical broad band on the body. "Dasotdonggal--mang-dug" is proposed as Korean name of this species.

KEY WORDS: *Pterogobius zacalles*, Gobioid fish record, Korean waters

Pterogobius zacalles was originally described by Jordan and Snyder(1901) after a single specimen collected from Masaki, Sagami of Japan. Until now, three species of the genus *Pterogobius* were reported from the waters of Korea(Mori, 1952; Chung, 1977), but it is suggested that the other species of this genus as well as other gobioid fishes known from the waters of Japan probably present in Korea(Kim *et al.*, 1986, 1987). In the course of studying the coastal fish fauna, three specimens of the gobioid fish collected from Songjong-dong, Pusan-si in February 10, 1989, were recognized as a unrecorded species, *Pterogobius zacalles* Jordan et Snyder, 1901, from Korea. In this study it is described and figured.

Materials and Methods

Collection was made at Songjong-dong, Pusan-si, Korea, by crab pot in February 10, 1989. The specimens collected were fixed in 10% formalin solution immediately.

Specimens were measured with 1/20mm caliper to the nearest 10th of a millimeter. Measurements agree with those described in Hubbs and Langler(1964). The sense organ and pit organ which are important in the classification of

Gobiidae were observed after staining by cyanine. Its terminology is that of Masuda *et al.*(1984). Drawing was sketched with a zoom stereomicroscope and camera lucida (Nikon SMZ-10, Japan). Vertebral and fin-ray counts were taken from the radiographs by soft x-ray(Hitex, Japan).

Results

Pterogobius zacalles Jordan et Snyder, 1901 (Dasotdonggalmang-dug Fig. 1)

Specimens observed: CUB(Department of Biology, Chonbuk National University) 15080~15082 (3 specimens), 93. 1-115.9mm SL., Songjong-dong, Pusan-si, February 10, 1989.

Description: D. VIII, I-24~25; A. I-24~25; Lateral-line scales, 113-117; Gill rakers, 3+12=15; Vert. 34. Measurements from specimens given in Table 1. Body depth 16.5-21.4 expressed in hundredth of standard length; head length, 26.1-27.4; length of caudal peduncle, 10.7-11.6; depth of caudal peduncle, 8.4-9.8; distance from snout to first dorsal, 30.1-30.9; distance from snout to anal, 56.5-57.0; distance between ventral and anal, 30.9-32.0; length of snout, 6.5-7.2; diameter of orbit, 5.1-6.0; width of interorbital space, 5.2-7.2. Length of snout expressed in hundredth of

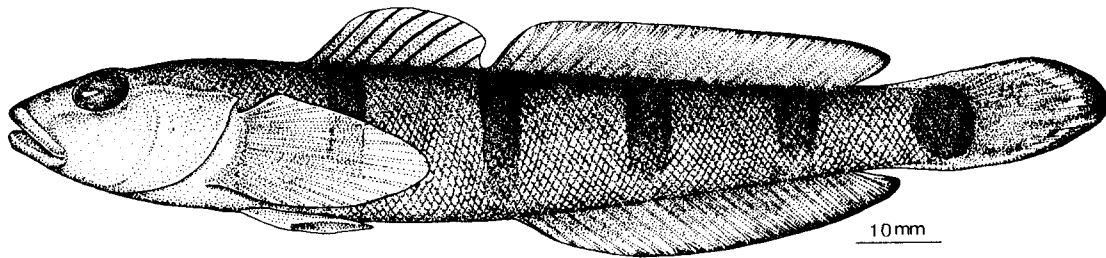


Fig. 1. *Pterogobius zacalles* Jordan et Snyder.

head length, 24.8-26.8; diameter of orbit, 21.8-26.8; width of interorbital space, 18.9-20.0.

Medium-sized gobioid fish reaching 134.8 mm in total length. Mouth oblique; jaws equal. Eye large; its length about equal to width of interorbital space; width of interorbital space more or less short than those of snout. Dorsal separate, though close together; second dorsal very long, reaching the base of caudal when depressed. Second dorsal, anal, and caudal narrowly margined with orange, the edges black. Anal also long, inserted beyond base of dorsal, reaching the base of caud-

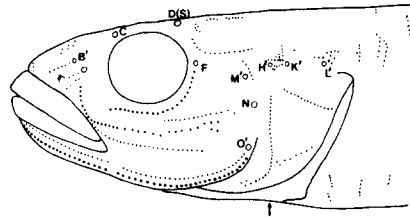


Fig. 2. Schematic diagram of the sensory canal pore and pit organs of *Pterogobius zacalles*. B' to H'; anterior oculoscapular canal, K'L'; posterior oculoscapular canal, M' to O'; preopercular canal, (S); single canal pore. Letters with an apostrophe indicate pores at the canal. Arrow indicates anterior end of gill opening.

Table 1. Morphometric measurements and counts of *Pterogobius zacalles* collected from Songjang-dong, pusan-si, Korea in February 10, 1989.

	Present study (n=3)	Jordan and Snyder (n=1)
Total length	108.5-134.8	91mm
Standard length	93.1-115.9	
In % of standard length		
Body depth	16.5-21.4	18.5
Head length	26.1-27.4	24.4
Caudal peduncle length	10.7-11.6	11.5
Caudal peduncle depth	8.4- 9.8	9.5
Length of predorsal	30.17-30.9	32
Length of prepectoral	27.4-28.0	
Length of preventral	25.0-26.4	
Length of preanal	56.5-57.0	58
Distance of ventral to anal	30.9-32.0	
Snout length	6.5- 7.2	7.5
Eye diameter	5.1- 6.0	6.5
Interorbital width	5.2- 7.2	3.5
In % of caudal peduncle length		
Caudal peduncle depth	78.0-87.7	
No. of dorsal fin rays	VIII,1-24~25	VIII-26
No. of anal fin rays	1-24~25	26
No. of lateral-line scales	113-117	96
No. of gill rakers	3+12(=15)	
No. of vertebrae	34	

al when depressed. Caudal rounded. Body with dark brown above, pale yellowish below. 5 dark, broad, vertical bands on each side, not edged with paler and not uniting below; the first at intersection of spinous dorsal; the last on the base of caudal.

The sense organ and pit organ on head given in fig. 2. Anterior oculoscapular canal with openings B', C, D(single), F, M', H'; posterior oculoscapular canal with K', L'; preopercular canal with M', N, O'; cheek region with three longitudinal series of pits; its pattern similar with those of *P. elapoides* among others (Masuda *et al.*, 1984).

Range: Southern coast of Korea(Pusan-si). Hitherto recorded from Hokkaido to Kyushu of Japan.

Remarks: Jordan and Snyder(1901) recorded the species after a single specimen, 91mm total length, from Masaki, Sagami of Japan. Though the measurements in the present study differ slightly from original description (see table 1), it is identified as *P. zacalles* based on such characters as the color pattern, the number of dorsal fin rays and anal fin rays, and the number of scales on lateral-line etc. which are agreed with those of Japanese(Masuda *et al.*, 1984; Tomiyama, 1936) and proposed "Dasotdonggal-mangdug" as Korean name. This species is characterized by 5 dark-brown-bands on each side of the body, the number of dorsal and anal fin rays, and the number of scales on lateral-line.

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한국산 망둑어과(Gobiidae) 어류 1미기록종 *Pterogobius zacalles*에 대하여 강언종(전북대 자연대 생물학과)

1989년 2월 10일 부산시 송정동에서 채집한 망둑어과 어류 3개체가 한국 미기록종인 *Pterogobius zacalles*로 동정되었기에 이를 기재하였다. 본 종은 체측에 5개의 암갈색 황대가 있고, 측선 릿수가 113-117개로 많으며, 등지느러미기조 수가 VIII, I-24~25이고, 뒷지느러미기조 수가 I-24~25인 점 등에서 같은 속의 다른 종들과는 구분된다. 본 종의 한국명은 다섯동갈망둑이라 명명하였다.