

# First Record of the Goby *Gymnogobius taranetzi* (Perciformes: Gobiidae) from Korea

By Yong-Joo Lee\*

Jeonju National University of Education, Jeonju 560-757, Korea

**ABSTRACT** Twenty five specimens (40.8~58.4 mm SL) of *Gymnogobius taranetzi* (Family Gobiidae) were collected from the estuary of Samcheok-si and Yangyang-gun, Gangwon-do, Korea. This species is distinguished from other *Gymnogobius* species by oculoscapular canals not extending anteriorly through interorbital space, but replaced by rows of sensory papillae; oculoscapular canal pore C is absent; some yellow bands on body in female with breeding color. The new Korean name "Dong-hae-nal-mang-duk" is proposed for this species.

**Key words :** *Gymnogobius taranetzi*, Gobiidae, first record, Korea

## INTRODUCTION

The Asian goby genus *Gymnogobius* Gill, 1863 includes 16 species found in shallow marine, brackish and fresh water of Japan, the Kuril Island, the Russian Far East, Korea and the Yellow Seas (Stevenson, 2002; Eschmeyer, 2011). In Korea, seven species have been reported from fresh waters to shallow marine (Lee, 2010). During the investigation of the ichthyofauna along the rivers of the eastern coast of Korea, 25 specimens belong to the genus *Gymnogobius* were collected by a cast net. They were identified as *G. taranetzi* (Pinchuk, 1978), which has been recently reported from the Shinji Lake in Japan and the Primorski Krai of the Russian Far East (Stevenson, 2002). Therefore, this species was listed as the new Korean fish fauna based on the specimens.

Counts and measurements were made according to Hubbs and Lagler (2004) with digital vernier caliper to the nearest 0.1 mm. The examined specimen was deposited at the Biological Laboratory, Jeonju National University of Education (JNUE), Korea.

### *Gymnogobius taranetzi* (Pinchuk, 1978)

(New Korean name: Dong-hae-nal-mang-duk)

(Fig. 1; Table 1)

*Chaenogobius taranetzi* Pinchuk, 1978: 10-11. (type locality: Kedrovka River mouth, Primorski Krai, Russia).

*Gymnogobius taranetzi* Stevenson, 2002: 274-276.

**Material examined.** JNUE 850~861, 12 specimens, 40.8~58.4 mm in standard length (SL), Wolcheon-ri, Wondeok-eup, Samcheok-si, Gangwon-do, Korea, 22 May 2010. JNUE 862~874, 13 specimens, 40.8~58.7 mm in SL, Hagwangjeong-ri, Hyeonbuk-myeon, Yangyang-gun, Gangwon-do, Korea, 22 May 2010.

**Description.** Counts for the present specimens are shown in Table 1, and compared with those of the original description. Measurements (%) in SL were as follows: Head length 26.7~30.4 (28.1); head width 15.0~16.9 (15.8); head depth 15.0~17.5 (16.3); body depth 15.0~20.3 (17.7); caudal peduncle depth 6.9~8.2 (7.5); caudal peduncle length 21.1~24.6 (23.1); predorsal length 34.3~38.3 (36.2); length of second dorsal fin base 18.2~23.0 (20.9); length of ventral fin 20.3~23.6 (21.5). Measurements (%) in head length were as follows: Orbital diameter 20.8~27.2 (23.9); snout length 27.8~31.8 (30.2); postorbital length 51.2~59.7 (54.5); interdorsal length 8.3~14.2 (10.2); caudal peduncle depth 24.8~29.1 (26.9). Measurements (%) in caudal peduncle length was as follows: Caudal peduncle depth 30.4~35.8 (32.8).

Body is somewhat elongate and compressed; caudal peduncle moderately deep; scale small, ctenoid, and covering entire body from base of pectoral fin to caudal fin; head, cheek, and opercle naked. Head somewhat broad and depressed anteriorly, and with broad bulge on snout; interorbital space narrow, its width less than orbital diameter; mouth small, directed slightly upward; lower jaw protruding slightly beyond upper jaw; maxilla extending posteriorly to anterior margin of middle portion of orbital; small and conical teeth in premaxilla and dentary

\*Corresponding author: Yong-Joo Lee Tel: 82-63-281-7148,  
Fax: 82-63-281-7151, E-mail: yjlee@jnue.kr

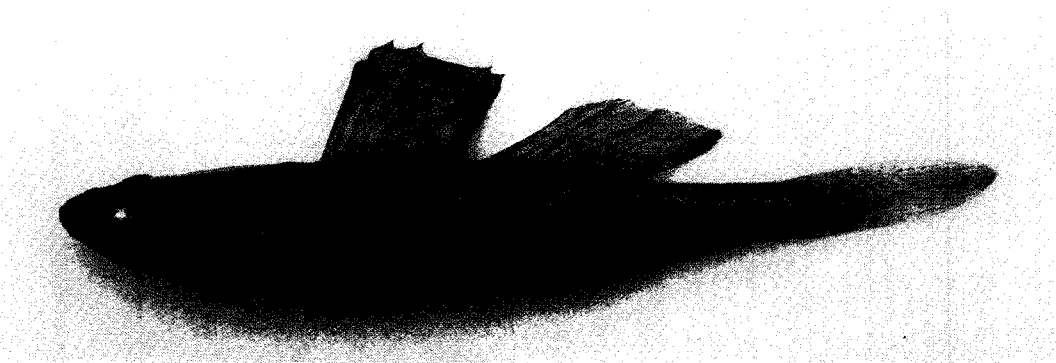


Fig. 1. *Gymnogobius taranetzi* (Pinchuk) JNUE 853, 51.3 mm SL, Wolcheon-ri, Wondeok-eup, Samcheok-si, Gangwon-do, Korea.

Table 1. Comparison of the observed and previously reported morphological characters of *Gymnogobius taranetzi*

|                       | Present study                         | Pinchuk (1978) | Stevensen (2002)      |
|-----------------------|---------------------------------------|----------------|-----------------------|
| Number of specimens   | 25                                    | 4              | —                     |
| Standard length (mm)  | 40.8 ~ 58.4                           | 42.0 ~ 68.5    | —                     |
| Dorsal fin rays       | VII ~ VIII-I, 9 ~ 11 (mainly 10 ~ 11) | VII-I, 10 ~ 11 | VII ~ VIII-I, 10 ~ 11 |
| Pectoral fin rays     | 18 ~ 20                               | —              | 19 ~ 21               |
| Anal fin rays         | I, 9 ~ 11                             | I, 9 ~ 10      | I, 9 ~ 10             |
| Lateral row scales    | 65 ~ 68                               | 65 ~ 71        | 62 ~ 67               |
| Transverse row scales | 18 ~ 20                               | —              | 17 ~ 21               |
| Predorsal scales      | 0 ~ 1                                 | —              | 0 ~ 6                 |

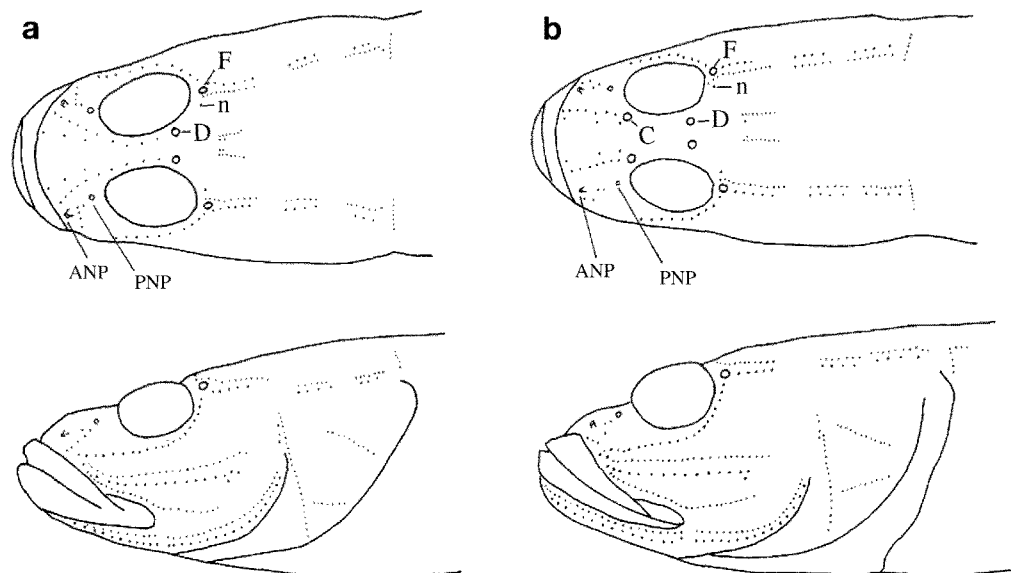


Fig. 2. Dorsal and lateral aspects of head oculoscapular canal pore and sensory papillae of the genus *Gymnogobius* from Korea. a, *G. taranetzi* JUNE 863, 58.4 mm SL; b, *G. breunigii* JNUE 731, 57.4 mm SL; D, paired posterior interorbital pores; F, postorbital pores; n, anterior transverse row of occipital series of sensory papillae. ANP, anterior nasal pore; PNP, posterior nasal pore.

teeth in four irregular rows; posterolateral end of mental flap distinct; no fleshy and barbel-like processes behind chin. Anterior oculoscapular canal restricted posterior portion of orbit, its opening through paired D and F pores, and anterior interorbital portion of each canal replaced by

rows of sensory papillae; four suborbital rows of sensory papillae oriented longitudinally; on sensory papilla in row n, directly dorsomedial to F pore (Fig. 2). Dorsal fins approximately equal in height and separated from the each other, and it is not connected by membrane; pecto-

ral fin somewhat rounded, nearly extending backward vertically from the posterior margin of the first dorsal fin; caudal fin rounded.

**Color when fresh.** Ground color of head and body yellowish brown, becoming yellowish white on ventral surface; white spots scattered on head and dorsal surface. First and second dorsal fins with several distinct yellowish brown longitudinal bands, and tiny dark spots scattered on fin membrane. First dorsal fin with large and dark blotch near posterior margin; caudal fin yellowish with distinct brown transverse bands; pectoral fin yellowish and translucent. Branchiostegal region, pelvic fins, and anal fin heavily pigmented and black in female.

**Color when preserved.** Head and body brown, becoming yellowish-white on ventral surface; tiny dark brown or black spots forming distinct vermiculations on dorsal region and series of dark blotches in lateral line region; 5~7 obscure and broad, dorsoventrally oriented bands on sides of body and the last one extending below lateral line region; dark spots generally less dense on the ventral surface. First and second dorsal fins with several distinct dark and with wavy longitudinal bands; first dorsal fin large and with dark blotch near posterior margin; anal fin dusky; caudal fin greyish and translucent with distinct dark-brown transverse bands; pectoral fin pale grey with striped small and dark-brown spots. Branchiostegal region, pelvic fins and anal fin black in female.

**Distribution.** This species is distributed in the East Sea coastal area of Korea, Japan and Russia (Pinchuk, 1978; Koshikawa and Sato, 1986; Stevenson, 2002; Yamazaki *et al.*, 2006; present study). It is a euryhaline species that has been collected in fresh water, brackish water, and fully marine water (Stevenson, 2002).

**Remarks.** In Korea, seven species of the genus *Gymnogobius* have been reported so far (Lee, 2010). *Gymnogobius taranetzi* is morphologically similar to *G. breunigii* among the known Korean *Gymnogobius* species: oculoscapular canal pores D and F are present; female shows breeding color. However, *G. taranetzi* differs from *G. breunigii* by oculoscapular canals not extending anteriorly through interorbital space, but replaced by rows of sensory papillae (vs. oculoscapular canals extending anteri-

ory through interorbital space); oculoscapular canal pore C is absent (vs. oculoscapular canal pore C is present) (Fig. 2); some yellow bands on body in female with breeding color (vs. no yellow bands on body in female with breeding color). The present specimens correspond well with those of several previous descriptions of *G. taranetzi* (Table 1). Based on that distribution on the eastern water of Korea, a new Korean name “Dong-hae-nal-mang-duk” is proposed for this species.

## REFERENCES

- Eschmeyer, W.N. 2011. <http://researcharchive.calacademy.org/research/Ichthyology/catalog/fishcatmain.asp>, Date of use 16 Aug. 2011.
- Hubbs, C.L. and K.F. Lagler. 2004. Fishes of the Great Lakes Region. Michigan Univ. Press, Ann Arbor., 332pp.
- Koshikawa, T. and H. Sato. 1986. Synopsis of new recorded goby, *Chaenogobius* sp. of Lake Shinji. The Freshwater Fishes, 12: 51-55. (in Japanese)
- Lee, Y.J. 2010. Taxonomic review of the genus *Gymnogobius* (Pisces, Gobiidae) from Korea. Korean J. Ichthyol., 22: 65-77. (in Korean)
- Pinchuk, V.I. 1978. Notes and supplements to the family Gobiidae. In: Lindberg G.U. and Z.V. Krasnyukova, Fishes of the Sea of Japan and adjacent waters of the Okhotsk and Yellow Seas, Part 4, 1975 with a description of new species *Chaenogobius taranetzi*. Voprosy Ikhtiologii, 18: 1-14. (in Russian)
- Stevenson, D.E. 2002. Systematics and distribution of fishes of the Asian goby genera *Chaenogobius* and *Gymnogobius* (Osteichthys: Perciformes: Gobiidae), with the description of a new species. Species Diversity, 7: 251-312.
- Yamazaki, Y., S. Haramoto and T. Fukasawa. 2006. Habitat uses of freshwater fishes on the scale of reach system provided in small streams. Environ. Biol. Fish., 75: 333-341.

## 한국산 망둑어과(농어목) 어류 1미기록종, *Gymnogobius taranetzi*

이용주

전주교육대학교

---

**요 약** : 망둑어과(Family Gobiidae)에 속하는 *Gymnogobius taranetzi* 25개체가 강원도 삼척시와 양양군의 기수역에서 채집되었다. 본 종은 형태적으로 망둑어과의 다른 꼭저구속 종들과 유사하나 양안 사이의 안건갑관이 각각공기열로 대체되어 전안건갑관 개공 C가 없으며, 산란기의 암컷은 체측에 황색의 가로띠가 나타나는 특징을 갖고 있는 점에서 구별된다. 본 종은 동해연안에 분포하는 점을 들어 국명을 “동해날망둑”이라고 명명하였다.

---

**찾아보기 낱말** : 망둑어과, 동해날망둑, 미기록종, 강원도