First Record of *Glossogobius olivaceus* (Perciformes: Gobiidae) from Korea

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ABSTRACT  
A single specimen of *Glossogobius olivaceus* was collected from Ulsan, Korea in May 2015, representing the first identification of the species in Korean waters. This species is characterized by several blackish dots on the nape, developed sensory pores and papillae on the head, 33 lateral line scales, and 27 vertebrae. The newly proposed Korean names of the genus and species are “Geom-eun-ban-jeom-mang-duk-sok” and “Geom-eun-ban-jeom-mang-duk”, respectively.

Key words: First record, *Glossogobius olivaceus*, Gobiidae, Hoe-ya river, East Sea, Korea

INTRODUCTION

The family Gobiidae (generally referred to as gobies) is the most species fish group, comprising 189 genera and 1359 species (Nelson *et al.*, 2016). In Korea, 39 genera and over 70 species have been reported to date (NIBR, 2018). Most gobid species live in marine, but some are in freshwater or estuarine habitats (Hastings *et al.*, 2014). The genus *Glossogobius* Gill, 1859, the most species within the family, currently comprises at least 35 species worldwide (Hoe and Allen, 2009; Froese and Pauly, 2019), but none has been reported from Korea to date.

In the present study, a single specimen of the genus *Glossogobius* collected from Ulsan, on the East Sea coast of Korea, is reported. It was identified as *G. olivaceus* (Temminck and Schlegel, 1845) based on its morphology, and this is the first report of the species in Korea.

MATERIALS AND METHODS

A single specimen of *G. olivaceus* was collected from an estuarine region of the Hoe-ya river in Ulsan in May 2015. The specimen was preserved in 10% formalin and transferred in 70% ethanol. Counts and measurements were made according to Hubbs *et al.* (2004), and measurements were made to the nearest 0.1 mm with a digital vernier caliper. The vertebrae were counted from a radiograph (CMB-2, Softex, Japan). Sensory canal pores and papillae followed Akihito and Meguro (1975). The specimen was deposited at the National Marine Biodiversity Institute of Korea (MABIK).

*Glossogobius* Gill, 1859  
(New Korean name: Geom-eun-ban-jeom-mang-duk-sok)  
*Glossogobius* Gill, 1859: 46 (type species: *Gobius platycephalus* Richardson, 1846).  
*Cephalogobius* Bleeker, 1874: 320 (type species: *Gobius sublitis* Cantor, 1849).  
*Stupidogobius* Aurich, 1938: 149 (type species: *Stupidogobius flavipinnis* Aurich, 1938).

Description. Head depressed and longitudinal papilla pattern on cheek. Lower jaw protruding. Mental frenum typically lobed. A bony process long and extending from preoperculum to symplectic. Several rows of teeth on both jaws and 27~30 vertebrae present (Gill, 1859; Hoe and Allan, 2009).
First Record of *Glossogobius olivaceus* from Korea

*Glossogobius olivaceus* (Temminck and Schlegel, 1845)

(New Korean name: Geom-eun-ban-jeom-mang-duk)

(Figs. 1~3; Table 1)

*Gobius olivaceus* Temminck and Schlegel, 1845: 143 (type locality: unknown).

*Gobius fasciatopunctatus* Richardson, 1845: 145 (type locality: Canton, China).

*Glossogobius olivaceus*: Pan et al., 1991: 460 (China); Bogutskaya and Naseka, 2004: 221 (Russia); Shen and Wu, 2011: 688 (Taiwan); Akihito et al., 2013: 1463 (Japan).

**Material examined.** MABIK PI00045858, a single specimen, 123.7 mm in standard length (SL), estuary of Hoe-ya river (35°23′39.83″N, 129°20′3.9″E), Seosaeng-myeon, Ulju-gun, Ulsan, 27 May 2015, cast net.

**Comparative materials.** *Acanthogobius flavimanus*: PKU 53683, PKU 53685, 2 specimens, Sacheon, Gyeongsangnam-do, 14 Jan 2015.

**Description.** Counts are shown in Table 1. Proportions as % SL: body depth 20.6; head length (HL) 35.4; predorsal length 39.7; preanal length 65.3; prepectoral length 36.3; prepelvic length 39.4; caudal peduncle depth 11.2; caudal peduncle length 22.4. Proportions as % HL: snout length 34.7; eye diameter 16.9; interorbital width 16.2.

Body oblong and tapers posteriorly. Head large, depressed dorsally and snout slightly pointed. Mouth moderate and posterior margin of maxilla beyond vertical to anterior margin of eye. Anterior tip of lower jaw protrudes beyond upper jaw. Conical teeth on both jaws. Mental frenum slightly lobed. Eye moderate, and interorbital slightly wide and concave. Two pairs of nostrils present, anterior nos-
tril short tube and posterior nostril pore. Gill membranes broadly attached to isthmus. Posterior margin of preopercular without spine. Caudal peduncle relatively slender. Two dorsal fins completely separated. Origin of second dorsal fin located vertically in front of origin of anal fin. Body covered in ctenoid scales. Small ctenoid scales present on occipital and nape. Cheek and base of pectoral fin naked. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed. Sensory pores and papillae on head well-developed.

Coloration. When preserved ethanol, head and body darkish brown, abdominal region whitish. Lateral region of body with five blackish blotches, and predorsal region with several small blackish dots. All fins semi-transparent, except anal fin and pelvic disc, which have darkish membranes and whitish margins. Dorsal and caudal fin membranes show several small darkish dots.

Distribution. *G. olivaceus* is distributed across East Asia, including the Philippines (Hoese and Allen, 2009), China (Pan et al., 1991), Taiwan (Shen and Wu, 2011), Japan (Akihito et al., 2013), and Russia (Bogutskaya and Naseka, 2004), as well as Africa, including South Africa and Madagascar (Hoese and Allen, 2009). The present study confirms its presence in Korea, in an estuarine region in Ulsan.

Remarks. Temminck and Schlegel (1845) first described *G. olivaceus* from Japan in the Fauna Japonica. However, Boeseman (1947) stated that the type specimen of this species was unknown, and therefore its plate in the original description may not be *G. olivaceus*. Subsequently, Akihito

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<th>Table 1. Meristic characters of <em>Glossogobius olivaceus</em></th>
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<td><strong>Glossogobius olivaceus</strong></td>
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(1966) suggested that the Japanese goby, called “urohaze” in Japan, is similar in morphology to not only *G. fasciatuspunctatus* but also to *G. olivaceus* as described in the Fauna Japonica. Therefore, *G. olivaceus* that was described in the Fauna Japonica has been established as a valid species, because *G. fasciatuspunctatus* is the junior synonym of *G. olivaceus*.

In the present study, a single specimen was assigned to the genus *Glossogobius* based on the following characters: papillae present on the cheek, 27 vertebrae, and a de-pressed head (Hoese and Allen, 2009). Among the known species in the genus, it was identified as *G. olivaceus* because this specimen has several blackish dots on the nape (Fig. 2) (Akihito, 1966; Akihito et al., 2013). When compared with the original description of *G. olivaceus*, Korean specimen is similar in coloration, fins and scale counts (Fig. 1; Table 1). Also, this species is similar to *Acanthogobius flavimanus* in external shape but differs in the number of first dorsal fin spines (six in *G. olivaceus* vs. eight in *A. flavimanus*) (Present study, Akihito et al., 2013).

I propose the new Korean names of “Geom-eun-ban-jeom-mang-duk-sok” for the genus *Glossogobius* and “Geom-eun-ban-jeom-mang-duk” for the species *G. olivaceus*.

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Glossogobius olivaceus

권혁준
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요 약 : 2015년 5월 우리나라 울산에서 Glossogobius olivaceus 1개체가 처음 채집되었다. 본 종은 목덜미에 검은 점이 다수 있고 머리에 감각공과 돌기가 발달하였으며, 측선비늘은 33개, 척추골은 27개이다. 본 속 및 종의 새로운 국명으로 “검은반점망둑속” 및 “검은반점망둑”을 제안한다.

 찾아보기 낱말 : 미기록종, Glossogobius olivaceus, 망둑어과, 회야강, 동해, 대한민국