

First Record of the Starry Goby, *Asterropteryx semipunctata* (Perciformes: Gobiidae) from Jeju Island, Korea

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Seventeen specimens (29.1 ~ 50.7 mm SL) of the starry goby, *Asterropteryx semipunctata*, were collected from the southern coast of Jeju Island, Korea, and described as the first record from Korea. The species is characterized by having separated pelvic fins, five to eight short spines on posterior margin of preopercle, and numerous blue spots on head, body and unpaired fins except for first dorsal when fresh. We proposed a new Korean name, 'Cheong-byeol-mang-duk', for the species.

Key words : *Asterropteryx semipunctata*, new Korean record, Jeju Island, Gobiidae

The Indo-Pacific gobiid genus *Asterropteryx* Rüppell, 1830 is characterized by the combination of following characters: preopercular spines, flexible spinous dorsal fin rays, cheek and operculum covered with scales, 6~7 transverse sensory papilla rows below eye, almost entirely separate or slightly united pelvic fins, and so on (see Shibukawa and Suzuki, 2002 for more information). According to Shibukawa and Suzuki (2002), the genus including six species is divided into two species subgroups, i.e., "*semipunctata* complex" containing *A. semipunctata* Rüppell, 1830, *A. ensifera* (Bleeker, 1874), *A. striata* Allen and Munday, 1995, and *A. atripes* Shibukawa and Suzuki, 2002 and "*spinosa* complex" containing *A. spinosa* (Goren, 1981) and *A. bipunctata* Allen and Munday, 1995.

Recently, we collected seventeen specimens belong to the *semipunctata* complex of *Asterropteryx* from the southern coast of Jeju Island, Korea. They were identified as *A. semipunctata*,

which has not been recorded from the Korean waters to date. In the present study, we described *A. semipunctata* as the first record from Korea based on these specimens.

Counts and measurements were followed those of Shibukawa and Suzuki (2002). The present specimens were deposited in the Marine and Environmental Research Institute, Cheju National University (MRIC), Korea.

***Asterropteryx semipunctata* Rüppell, 1830**
(New Korean name: Cheong-byeol-mang-duk)
(Fig. 1; Table 1)

Asterropteryx semipunctatus Rüppell, 1830: 138, pl. 34 (fig. 4) (type locality: Massawa, Eritrea, Red Sea); Randall and Goren, 1993: 4 (Maldives); Shibukawa *et al.*, 2003: 177 (Indonesia); Senou *et al.*, 2004: 382 (Japan).

Materials examined. MRIC 1084, 43.8 mm in standard length (SL), Wimi, Namwon-eup, Seogwipo-si, Jeju-do, Korea, 1 June, 2003, collected

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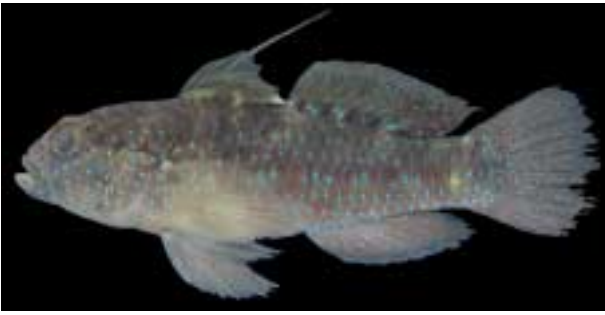


Fig. 1. *Asterropteryx semipunctata*, MRIC 4498, 45.6 mm SL, collected from the southern coast of Jeju Island, Korea.

by B.J. Kim, J.H. An, and I.J. Kim; MRIC 1768, 42.4 mm SL, 1 August, 2004, MRIC 2506~2515, 10 specimens, 44.3~50.7 mm SL, 23 May, 2005, Seogwipo-si, Jeju-do, Korea, collected by B. J. Kim; MRIC 4498*, 45.6 mm SL, MRIC 4599*, 51.5 mm SL, MRIC 4500*, 29.1 mm SL, 22 August 2006, Ganjeong, Seogwipo-si, Jeju-do, Korea, collected by B. J. Kim; MRIC 4769*, 47.5 mm SL, MRIC 4770*, 45.5 mm SL, 3 November 2006, Daejeong, Seogwipo-si, Jeju-do, Korea, collected by B.J. Kim, H.J. Kweon.

*not included in measurements.

Description. Dorsal fin rays VI-I, 9~11 (mainly VI-I, 10); anal fin rays I, 9~10 (I, 9); pectoral fin rays 15~17 (16); pelvic fin rays I, 5 (I, 5); branched caudal fin rays 6~8+6~8; transverse scales 7~9; longitudinal scale rows 25~27+1. Proportion as % SL: head length 31.0~32.6 (mean 32.1); nape width 13.4~16.3 (15.2); body depth at origin of first dorsal fin 29.5~31.8 (30.9); body depth at origin of anal fin 26.2~30.0 (28.3), snout length 9.4~11.3 (10.2); eye diameter 7.3~10.0 (8.3); interorbital width 2.6~5.2 (4.2); jaw length 10.5~12.9 (11.8); snout to origin of first dorsal fin 35.2~37.7 (36.6); snout to origin of second dorsal fin 55.1~58.4 (57.4); snout to origin of pelvic fin 31.6~34.7 (33.6); snout to origin of anal fin 58.4~63.3 (60.6), caudal peduncle length 22.8~25.4 (24.0); caudal peduncle depth 15.5~17.5 (16.3); pectoral fin length 28.1~32.3 (30.6); pelvic fin length 27.3~33.3 (29.7); bases of first dorsal fin 20.6~23.9 (22.1); base of second dorsal fin 24.8~27.0 (25.9); base of anal fin 17.6~22.6 (20.4); caudal fin length 23.7~30.7 (26.1); third dorsal spine length 21.0~46.0 (32.0).

Head and body rather compressed. Eye large, and interorbital region narrow and nearly flat. Mouth terminal, oblique lower jaw slightly pro-

Table 1. Comparison of meristic counts of *Asterropteryx semipunctata*

	Present study	Randall and Goren (1993)
Standard length (mm)	29.1~50.7 (n=17)	18.0~28.0 (n=5)
Dorsal fin rays	VI-I, 9~11	VI-I, 10
Anal fin rays	I, 9~10	I, 9
Pectoral fin rays	15~17	17~18
Longitudinal scale rows	25~27	23~24
Gill rakers	5~7+9~11	4~5+9~10
Preopercular spines	5~8	3~4

jecting upper jaw; posterior end of maxilla nearly reaching to a vertical at anterior margin of pupil. Tongue simple and rounded. Teeth on both jaws small, conical and multiserial. No teeth on vomer and palatines. Five to eight (mainly six) short posterior directed spines on posterior margin of preopercle, the uppermost one situated just behind sensory canal pore N. Gill membrane attached to isthmus. Third spinous ray of first dorsal fin longest. All pectoral fin rays branched, except for uppermost one or two rays (only two specimens with all branched). Pelvic fin separated; pelvic frenum absent; fourth segmented ray longest, its tip nearly reaching to origin of anal fin. Caudal fin round. Scales on head and body cycloid, except for snout, lip, ventral surface of lower jaw, and interorbital region. Patterns of cephalic sensory systems are as Akihito *et al.* (2002 : 1302, fig. 34-1), i.e., oculoscapular canal with pores B', C (single), D (single), E, F, G, H', K', and L' preopercular canal with M', N, and O'.

Color when fresh. Head and body dark brown to black, becoming reddish brown to pale brown on lower portion of body; each scale on body (except nape, abdomen, and dorsal fin base) with a bright blue spot, forming four or five longitudinal rows; similar blue spots scattered on cheek, operculum, and unpaired fins except first dorsal. Dorsal fin yellowish brown with several blotches along its base. Anal fin reddish brown with many bright blue spots described above. Pectoral fin semitransparent. Pelvic fin brownish. Caudal fin yellowish brown.

Distribution. Known from the Indo-Pacific Ocean: Red Sea to Tuamotu Islands, north to southern Japan (Allen and Swainston, 1988; Randall *et al.*, 1990; Randall, 1995; Shibukawa and Suzuki, 2002; Manilo and Bogorodsky, 2003) and Korea (present study), south to Lord Howe Island (Kuitert, 1993). In Korea, the species is

known from the southern coast of Jeju Island (Daejoeng, Gangjeong, Seogwipo, and Wimi).

Remarks. The present specimens collected from Jeju Island, Korea is characterized by having almost entirely separate pelvic fins, five to eight preopercular spines, and numerous blue spots on head, body, and unpaired fins (except first dorsal) when fresh. These characteristics agree well with the descriptions of *Asterropteryx semipunctata* by Shibukawa and Suzuki (2002), Hayashi and Shiratori (2003), and Senou *et al.* (2004) including the original description of the species. In addition, most meristic counts of *A. semipunctata* from Jeju Island, Korea also agree well with those of the species from the Maldives given by Randall and Goren (1993), except for the longitudinal scale rows and the number of preopercular spines (Table 1). Compared to those from the Maldives, the species from Jeju Island, Korea has more longitudinal scales rows and more preopercular spines. We regarded these differences between two regions as geographical variation of the species in this study, although more detailed comparison is needed. As a result, we identified the present specimens from Jeju Island, Korea as *A. semipunctata*.

Asterropteryx semipunctata is easily distinguished from its most similar species, *A. ensifera* in having several preopercular spines (five to eight in the present specimens vs. one in *A. ensifera*) on posterior margin of preopercle (Shibukawa and Suzuki, 2002). We propose a new Korean name "Cheong-byeol-mang-duk" for the species.

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한국산 망둑어과(농어목) 어류 1미기록종, *Asterropteryx semipunctata*
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제주도 남부 연안에서 망둑어과에 속하는 *Asterropteryx semipunctata* 17개체 (표준체장 29.1~50.7 mm)를 채집하였다. 본 종은 아직 국내에서는 보고되지 않은 한국미기록종으로, 배지느러미가 유합되지 않고, 전새개골 상후연에 5~8개의 거치가 있으며, 두부, 체측, 그리고 제1등지느러미를 제외한 홀지느러미에 청색 반점이 산재하는 특징에서 동속의 유사종과 구별된다. 본 종의 신한국명은 '청별망둑'이라 명명하였다.