

First Record of the Gobiid Fish, *Clariger cosmurus* (Perciformes: Gobiidae) from Korea

By Seung-Ho Choi* and Hyun-Geun Cho¹

Korean Association for Conservation of Freshwater Fish, Seoul 135-709, Korea

¹National Institute of Biological Resources, Incheon 404-708, Korea

ABSTRACT The four specimens of *Clariger cosmurus*, belonging to the family gobiidae were collected from the southern costal region of Korea, and described as the first record from Korea. The specimens are characterized by having two dorsal fins, a few barbels below the eye, and dark brownish line along lateral body from tip of snout to caudal peduncle. We propose a new Korean name of the genus *Clariger*, *C. cosmurus* as respectively Wae-mang-duk sok and Wae-mang-duk, for the species.

Key words : *Clariger cosmurus*, Gobiidae, first record

INTRODUCTION

The white back goby, genus *Clariger* of gobiidae is mainly characterized by having a elongated three spines of the first dorsal fin, the slender body, one to two free soft rays on upper end of pectoral fin, the skin with a few cycloid scales on the tail, and a few barbels below the eye.

This genus usually inhabits tidal zones and pools along rocky shore lines and is represented by six species, *Clariger cosmurus*, *C. exillis*, *C. sirahamaensis*, *C. papillosus*, *C. chinomaculatus*, and *C. taiwanensis*. It has been only reported in the coast of Japan and Taiwan (Akihito *et al.*, 1984; Shiogaki, 1988; Nakabo, 2002; Jang-Liaw *et al.*, 2012).

Despite no previous record, we collected a single specimen belonging to genus *Clariger* from the rocky intertidal pool of Chu-ja island, and additionally three specimens from Gijang-gun, Busan-city in Korea, during a survey of the ichthyofauna from the southern costal intertidal pool.

In the present study, our specimens were identified as *Clariger cosmurus* Jordan and Snyder, 1901, which have not been recorded as inhabiting Korea waters. Therefore, we herein describe *C. cosmurus* as the first record from Korea based on four specimens.

Measurements followed generally Hubbs and Lagler

(2004), being expressed in percentage of standard length (SL) or head length (HL). Counting methods followed Akihito *et al.* (1984).

The number of all fin rays and vertebrae were counted by Soft x-ray radiographs.

All specimens examined were deposited at the National Institute of Biological Resources (NIBR), Korea.

Genus *Clariger* Jordan and Snyder, 1901

(New Korea name: Wae-mang-duk-sok)

Clariger Jordan and Snyder, 1901: 120 (type species: *Clariger cosmurus* Jordan and Snyder, 1901).

***Clariger cosmurus* Jordan and Snyder, 1901**

(New Korea name: Wae-mang-duk)

(Fig. 1, Table 1)

Clariger cosmurus Jordan and Snyder, 1901: 121 (type locality: Misaki, Sagami, Japan,) Akihito *et al.*, 1984: 1166 (Aomori, Miyazaki, Sado Island, Izu-Oshimal Island, Hachijo Island, Tsushima Island, Japan).

Material examined. NIBR-P7414, 26.7 mm SL, 14 September 2009, Yecho-ri Chuja-myeon, Cheju-city, Cheju-do, Korea (33° 56'56" N, 126° 18'47" E); NIBR-P13346, 37.3 mm SL, 10 March 2011, Icheon-ri, Ilgwang-myeon, Gijang-gun, Busan-city, Korea (35° 16'34.46" N, 129° 15' 18.24" E); NIBR-P14954, NIBR-P14955, 2 individuals, 25.9~30.4 mm SL, 6 April 2011, Sinpyeong-ri, Ilgwang-myeon, Gijang-gun, Busan-city, Korea (35° 17'32.78" N,

*Corresponding author: Seung-Ho Choi Tel: 82-2-554-5154,
Fax: 82-2-554-5172, E-mail: choifish@hanmail.net

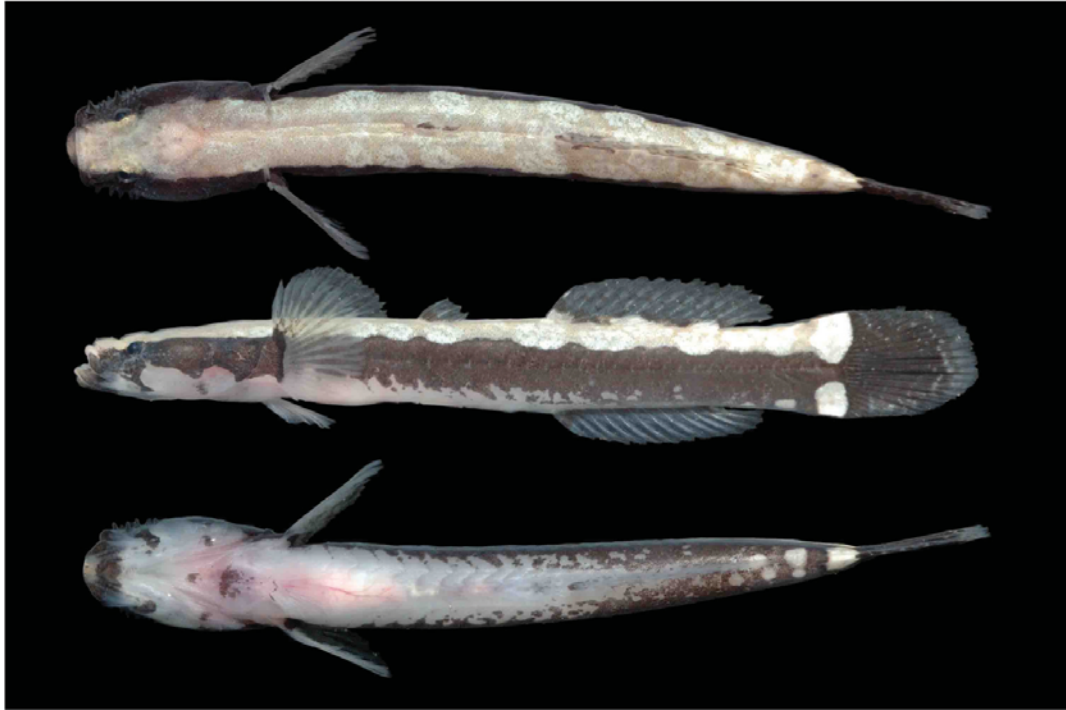


Fig. 1. *Clariger cosumurus* (NIBR-P7417, 24.6 mm SL) collected from the Chu-ja Island, Korea.

Table 1. Comparison of counts and measurements of *Clariger cosumurus*

	Present study (n=4)	Jordan and Snyder (1901)	Akihito <i>et al.</i> (1984)
Standard length (mm)	24.6~37.3	37.0	40.0
Dorsal fin rays	III-I, 12	III, 12	III-I, 10
Anal fin rays	I, 10~11	12	I, 10
Pectoral fin rays	18	18	18
Pelvic fin rays	I, 5	—	I, 5
Predorsal scales	0	0	0
Vertebrae (AV+CV)	14~15+19~20=33~34	—	15+19=34

129° 15'39.22" E).

Description. Comparison of counts and measurements is shown in Table 1. Dorsal fin rays III-I,12; anal fin rays I,10~11; pectoral fin rays 18; pelvic fin rays I, 5; predorsal scales absent; vertebrae 14~15+19~20=33~34; Barbels below eye 6. Measurements in % of SL: head length 25.1~27.2; body depth 9.9~14.6; predorsal length 42.9~46.7; caudal peduncle length 17.1~18.5; caudal peduncle depth 8.6~12.2. Measurements in % of HL: snout length 20.8~27.7; eye diameter 10.3~13.5; interorbital width 9.0~12.5.

Body slender, cylindrical anteriorly; gradually compressed from caudal peduncle. Head elongate and large; wider than the body, and flat on top. Mouth terminal; maxilla reaching to posterior margin of eye. Eye relatively small. Snout flat and long, not covering upper lip. A few well developed barbels below the eye. Dermal

folds on both sides of each nostril and at tip of lower jaw. Dorsal fin separated, first dorsal fin with three slender spines, and second dorsal fin base located marginally in front of origin of anal fin base. Caudal fin round, and caudal peduncle without extreme constriction. Pectoral fin round, large and two free soft rays upper margin of pectoral fin.

Cephalic lateral line system. Cephalic sensory canals absent. Pit scattered.

Coloration when fresh. Body white. Dark brownish line located at center of lateral body from base of second dorsal fin to tip of snout, and margin below lateral body from base of anal fin to base of caudal fin. Line narrow on snout, gradually widening to the posterior end. First dorsal fin with dark brownish blotch on anterior part.

Habitats. This small fish species growing to the maximum 40 mm TL (Shiogaki *et al.*, 1972) inhabits gravel

surfaces in shallow intertidal zones (0.3 to 1.0 meter depth), and shared the same habitats as *Luciogobius saikaiensis*.

Distribution. This species have been known from Mutu bay, Sado Island, Toyama bay, Izu-Oshima Island, Hachijo Island, Tsushima Island (Nakabo, 2002), Chu-ja island, Cheju-city and, Gijang-gun, Busan-city (Present study).

Remarks. The present specimens are characterized by having a few barbels, dark brownish line of lateral body and two free soft rays upper of pectoral fin. These characteristics and meristic counts corresponded well with the descriptions of *C. cosmurus*, as given by Jordan and Snyder (1901), except for body scales. Jordan and Snyder (1901) described the median part of caudal peduncle of *C. cosmurus* as being covered with cycloid scales, but our specimen is naked. We regard such a difference as intraspecific variation, because the wide variations were found in scalation in this species (Shiogaki, 1988).

The genus *Clariger* is easily distinguished from *Astrabe* Jordan and Snyder, 1901 of the most similar genus with fleshy body and four to eight free soft rays on upper end of pectoral fin in having one to two free soft rays on upper end of pectoral fin (Shiogaki, 1988; Nakabo, 2002). In addition, the present specimens also have the similar body shape with species reported as the genus *Luciogobius*, however the former is easily distinguished from the latter in having two separated dorsal fins and dark line along the lateral body.

Even though, *C. cosmurus* seems similar to *C. exillis*, it can be easily distinguished, as *C. cosmurus* is covered with distinct dark band from head to pectoral fin base and scales in many rows on caudal peduncle (Snyder, 1911; Shiogaki, 1988)

We propose a new Korean name of the genus *Clariger*, *C. cosmurus* as respectively Wae-mang-duk sok and Wae-mang-duk, for the species.

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한국 남해안에서 채집된 망둑어과 어류 1 미기록종, *Clariger cosmurus*

최승호 · 조현근¹

한국민물고기보존협회, ¹국립생물자원관

요 약 : 망둑어과에 속하는 *Clariger cosmurus* 4개체의 표본들을 국내의 남해안에서 채집하였고, 한국의 미기록종으로 기재한다. 본종은 2개의 등지느러미, 눈 아래의 6개의 수염이 있고, 주둥이 끝에서부터 미병부까지 몸의 측면을 따라 어두운 갈색 줄무늬를 가지는 것이 특징이다. 본 연구에서 우리는 본 속과, 종의 국명을 각각 왜망둑속, 왜망둑으로 제안한다.

찾아보기 낱말 : 미기록종, *Clariger cosmurus*, 왜망둑, 망둑어과