

# The Sinistral Flounder *Engyprosopon grandisquama* (Pleuronectiformes: Bothidae), a New Record from Korea

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**ABSTRACT** A bothid specimen (65.8 mm SL) collected from southern coastal waters of Tongyeong, Gyeongsangnam-do, is identified as *Engyprosopon grandisquama*. The specimen represents a new Korean record for the species. It is characterized by the presence of 6 gill rakers on the lower limb of the first arch, caudal fin with a pair of large jet-black blotches between the 3rd and 4th rays counted from the upper and lower margins, and body depth more than 50% of body length. A new Korean name “keun-bi-neul-neop-chi-sok” and “keun-bi-neul-neop-chi” is proposed for the genus and species, respectively.

**Key words** : Bothidae, *Engyprosopon grandisquama*, new record, Korea

## INTRODUCTION

Sinistral flatfishes of the genus *Engyprosopon* Günther, 1862, are found on the sand-muddy bottom in most of the tropical and temperate seas of the Indo-Pacific region (Amaoka, 1963; Amaoka *et al.*, 2008). Although this genus comprises 28 species worldwide, it has not been recorded from Korean waters. These species are characterized by the presence of fewer scales on the lateral line, wider interorbital space and slightly serrated scales on the ocular side of the body (Amaoka *et al.*, 2008).

While investigating coastal fishes of Tongyeong, Gyeongsangnam-do, Korea, we first collected a single specimen of *E. grandisquama* (Temminck and Schlegel, 1846) by using a trawl. We therefore described the species basis of the specimen, and added this species to the Korean fish fauna. Counts and measurements were performed in accordance with those performed by Norman (1934), and vertebrae and dorsal and anal fin rays were counted using a soft X-ray photograph (Hitex, HA-80; Japan). The voucher specimen is deposited in the Department of Marine Biotechnology, Kunsan National University (KNUM), Korea.

## Genus *Engyprosopon* Günther, 1862

(New Korean name: Keun-bi-neul-neop-chi-sok)  
*Engyprosopon* Günther, 1862: 431, 438 (type species: *Rhombus mogkii* Bleeker, 1854).

Body oval or rather elongate, ctenoid scales with short spines on the ocular side of the body, and four caudal plates deeply split into many branches. Fewer scales on the lateral line, wider interorbital space than other related group of the subfamily Bothinae (Amaoka, 1963).

## *Engyprosopon grandisquama* (Temminck and Schlegel, 1846)

(New Korean name: Keun-bi-neul-neop-chi)  
(Fig. 1, Table 1)

*Rhombus grandisquama* Temminck and Schlegel, 1846: 183, figs. 3, 4 (Nagasaki, Japan).

*Rhomboidichthys grandisquama* Günther, 1862: 437.

*Scaeops grandisquama*: Jordan and Starks, 1904: 627, pl. 8, fig. 2; Jordan and Starks, 1906: 169, fig. 1.

*Engyprosopon grandisquama*: Norman, 1926: 250; Norman, 1934: 209; Amaoka, 1963: 108, fig. 1; Amaoka in Masuda *et al.*, 1984: 348; Randall and Lim, 2000: 645; Nakabo, 2002: 1364; Adrim *et al.*, 2004: 127; Amaoka *et al.*, 2008: 112.

*Arnoglossus grandisquama* Fowler, 1934: 61, fig. 17.

**Material examined.** KNUM 2670, one specimen. 65.8

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Fig. 1. *Engyprosopon grandisquama*, KNUM 2530, 65.8 mm SL, from southern coastal waters of Tongyeong, Korea.

mm in standard length (SL), off Tongyeong, Gyeongsangnam-do, Korea (N 36°10'00", E 128°19'00"), trawl, 18 January, 2006.

**Description.** Counts and proportional measurements are shown in Table 1.

Body oval, its depth rather deep, greatest depth slightly anterior to mid-body. Head rounded before eyes in anterior profile. Caudal peduncle rather narrow. Eye large, lower eye placed slightly in advance of upper eye. Interorbital region broad. Mouth small, oblique. Rostral spine absent. Teeth on upper jaw biserial, outer series shorter; those on lower jaws uniserial and close-set. Gill rakers on lower limb of first arch short, absent on upper limb. Lateral line on ocular side with a strong curve above pectoral fin, absent on blind side. Scales large, on ocular side ctenoid with short spines, on blind side cycloid. Pectoral fin short and not produced. A pair of large jet-black blotch ranged between 3rd and 4th rays counted from upper and lower margins of caudal fin. Caudal fin rounded.

**Color after preservation.** Ground color on ocular side pale brown, on blind side milky pale brown. All fins on ocular side grayish with traces of darker spots.

**Distribution.** Known from Indo-Pacific: East Africa and throughout the Indian Ocean to the Indo-Australian Archipelago and New Caledonia, north to southern Japan, South China Sea, and South Sea of Korea (Amaoka, 1963; Amaoka *et al.*, 1993; Randall, 1995; Johnson, 1999; Nakabo, 2002; present study).

**Remark.** The present specimen agrees well with the morphological characters of the genus *Engyprosopon* as follows; ctenoid scales with short spines on the ocular side of the body, a few scales on the lateral line and wide interorbital space. Within the genus, *E. grandisquama* is

Table 1. Counts and proportional measurements of *Engyprosopon grandisquama*.

Counts and measurements	Present study	Temminck and Schlegel (1846)	Amaoka (1963)
Number of specimens	1	7	85
<b>Counts</b>			
Dorsal fin rays	84	76	79~87
Anal fin rays	65	58	59~65
Pectoral fin rays (ocular side)	11	11	11~12
Pectoral fin rays (blind side)	9		9~10
Pelvic fin rays	6	6	
Caudal fin rays	16	16	
Scales in lateral line	38		37~43
Gill rakers	0+6		0+6
Vertebral number	10+24		10+23~25
<b>Measurements</b>			
Standard length (mm)	65.8	71.1~88.9	78.2~122.2
Head length (mm)	15.7		
<b>In % of SL</b>			
Head length	23.9	22.2	23.8~27.8
Body depth	50.6		52.6~58.8
<b>In % of HL</b>			
Snout length	20.3		16.1~23.3
Upper eye	28.6		16.1~34.5
Interorbital width (male)			31.3~41.7
Interorbital width (female)	22.4		14.7~26.3
Maxillary length (ocular side)	31.1		27.8~35.7
Lower jaw (ocular side)	37.4		40.0~50.0
Lower jaw (blind side)	38.1		43.5~52.6
Depth of caudal peduncle	53.4		45.5~58.8
Longest dorsal ray	50.1		45.5~58.8
Longest anal ray	50.0		47.6~58.8
Pectoral fin length (ocular side)	81.5		80.0~105.3
Pectoral fin length (blind side)	51.7		45.5~62.5
Pelvic fin (ocular side)	41.3		40.0~52.6
Base of pelvic fin (ocular side)	34.9		35.7~47.6
Base of pelvic fin (blind side)	15.9		14.5~21.3

characterized by the presence of 6 gill rakers on the lower limb of the first arch, a caudal fin with a pair of large jet-black blotches ranged between the 3rd and 4th rays counted from the upper and lower margin and a body depth more than 50% of the length of the body (Amaoka *et al.*, 2008). The present specimen agrees well with these characters of *E. grandisquama*. Some proportional measurements, such as length of the lower jaw and base of pelvic fin (ocular side), differ from those described by Amaoka (1963). We think that, this was the result of measuring only 1 small specimen. Further, the numbers of dorsal and anal fin rays differ from the original description of *E. grandisquama*, but these numbers are in the range reported by Amaoka (1963), who counted more specimens.

*E. grandisquama* is similar to *E. multisquama* Amaoka, 1963 and *E. xystris* Hubbs, 1915 in having a pair of black blotches on the caudal fin, but *E. grandisquama* differs in the position of the black blotch (between the 3rd and 4th rays countered from the margin vs. between the 2nd and 4th rays and between the 3rd and 6th rays, respectively) (Amaoka *et al.*, 2008). *E. grandisquama* differ from *E. multisquama* in having fewer lateral line scales (37~43 vs. 45~50), longer eye diameter (longer than snout length vs. equal to or less than snout length), deeper body depth (more than 50% of SL vs. less than 50% SL) (Nakabo, 2002; Amaoka *et al.*, 2008). *E. grandisquama* differ from *E. xystris* in having a fewer gill rakers on the lower limb (6~8 vs 13~18) (Amaoka *et al.*, 2008).

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## 한국산 등글넙치과 어류 1 미기록종, *Engyprosopon grandisquama*

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**요 약** : 경상남도 통영의 남쪽 근해에서 채집된 어류 1개체는 한국미기록종인 등글넙치과의 *Engyprosopon grandisquama*로 동정되었다. 본 종의 특징은 6개의 새파가 하완에만 존재하는 점, 꼬리지느러미 상하의 3번째와 4번째 기조에 검은 점무늬가 대칭으로 위치하며 체고가 다소 높아서 체장의 1/2 이상인 점이다. 본종의 속명과 국명은 “큰비늘넙치속”, “큰비늘넙치”로 제안한다.

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**찾아보기 낱말** : 등글넙치과, *Engyprosopon grandisquama*, 한국미기록종