

# First records of the Two Triglid Fishes from Korea (Triglidae, Scorpaeniformes)

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First records of the two triglid fishes, *Lepidotrigla hime* and *L. kishinouyei*, are described on the basis of specimens collected from the South Sea of Korea. *L. hime* and *L. kishinouyei* are closely similar to *L. abyssalis* and *L. microptera* in their proportional measurements, respectively. *L. hime* differs from *L. abyssalis* in having the rostral width broader than interorbital one, well developed spines of rostrum and long maxilla reaching to anterior margin of pupil. *L. kishinouyei* differs from *L. microptera* in having a large and strong rostral spines and a jet black spot of pectoral fin inside.

## Introduction

The fishes of the triglids are generally small and are distributed in the tropical and temperate waters of the world, and among them, genus *Lepidotrigla* from the Indo-Pacific has about 36 species as valid species (Richards, 1992).

From the waters around Korea, the first report on the family Triglidae was made by Jordan and Metz (1913). Chyung (1977) has been classified into 7 species and 3 genera belonging to the family Triglidae from Korea. The genus *Lepidotrigla* comprising 5 species in Korea is distinguishable from the other genera in having the head covered with hard bony plates, large ctenoid scales on the body, and a row of pungent shields along bases of anterior and posterior dorsal fin both sides (Matsubara and

Hiyama, 1932).

From 1994 to 1996, two species belonging to the genus *Lepidotrigla* from the South Sea of Korea were collected. The aim of this paper is to describe it as a first record of two species from Korea.

The methods of count and measurement follow Hubbs and Lagler (1964). Vertebral counts were taken from radiograph. The examined specimens are deposited in the Department of Biology, Kunsan National University (BKNU).

## Genus *Lepidotrigla* Günther

*Lepidotrigla*(pars) Günther, 1860, p. 196, type species : *Lepidotrigla aspera* (Randel) ; Jordan and Richardson, 1908, p. 649.

*Lepidotrigla hime* Matsubara and Hiyama, 1932

(New Korean name : Hime - songdae) (Fig. 1)

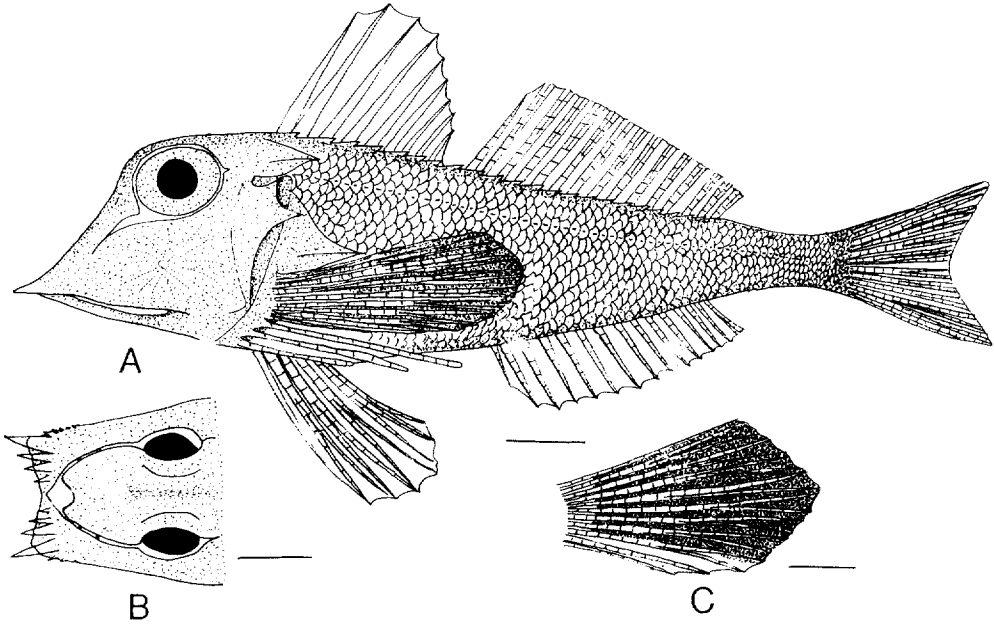


Fig. 1. *Lepidotrigla hime*, BKNU 4512, 106.8 mm SL. A : lateral view, B : dorsal view of head, C : inside of pectoral fin. Scales indicate 10 mm.

*Lepidotrigla hime* Matsubara and Hiyama, 1932, pp. 1~67 (type locality : Misaki, Suruga Bay) ; Yamada, 1993, p. 530.

**Materials examined** : BKNU 4511, 1 specimen, 110.4 mm SL, Sachon - shi, Kyungsangnam - do, Jul. 17, 1994 ; BKNU 4512~4516 (5 specimens), 77.4~106.8 mm SL, Nampo - dong, Pusan, Feb. 14, 1996.

**Description** : Dorsal fin rays IX - 15 ; pectoral fin rays iii + 11 ; anal fin rays 15 ; pored lateral line scales 57~60 ; scutta on dorsal 23 ; gill rakers 1 + 8~9 ; vertebrae 30~32.

In percentages to the standard length, head length 31.9~34.9 ( $33.6 \pm 1.07$ ), body depth 25.6~27.3 ( $26.4 \pm 0.69$ ), length of predorsal 35.3~38.0 ( $36.0 \pm 1.33$ ), length of prepectoral 29.6~33.7 ( $31.7 \pm 1.31$ ). In percentages to the head length, head depth 73.2~81.4 ( $77.2 \pm 3.23$ ), head width 55.6~69.6 ( $62.7 \pm 5.14$ ), orbital diameter 31.1~36.1 ( $33.7 \pm 1.68$ ), snout length 43.3~45.2 ( $44.4 \pm$

0.75), interorbital width 25.6~29.3 ( $26.7 \pm 1.22$ ), width of rostral spines 33.3~40.1 ( $35.4 \pm 3.44$ ), maxillary length 43.0~46.5 ( $45.0 \pm 1.48$ ).

Body robust and high, covered with ctenoid scales. Upper profile of snout nearly straight ; snout longer than orbital diameter ; snout slightly emarginated at tip, lateral prominence broadly serrated with several small spines and a large and strong rostral spine produced at each angle ; distance between both largest rostral spine broader than interorbital width (Fig. 1B). Nuchal spine and its ridge feebler than those of humeral spine. Humeral spine shorter than orbital diameter. Tip of maxilla reaches to anterior margin of pupil (nearly to center of pupil). Second dorsal spine longest, though slightly longer than third spine, tip of second one reaches to origin of second dorsal fin when it is depressed. Upper detached pectoral ray almost reaches to tip of ventral fin ; ventral extending to third anal ray ; pectoral reaching to base of seventh anal ray.

**Color in 10 % formalin** : The surface of body

uniformly light brown without any marking. Pectoral fin blackish inside, without spot (Fig. 1C).

**Distribution :** The South Sea and around Cheju Island of Korea, Japan and East China Sea.

**Remark :** *L. hime* is closely similar to *L. abyssalis* in proportional measurements (Table 1).

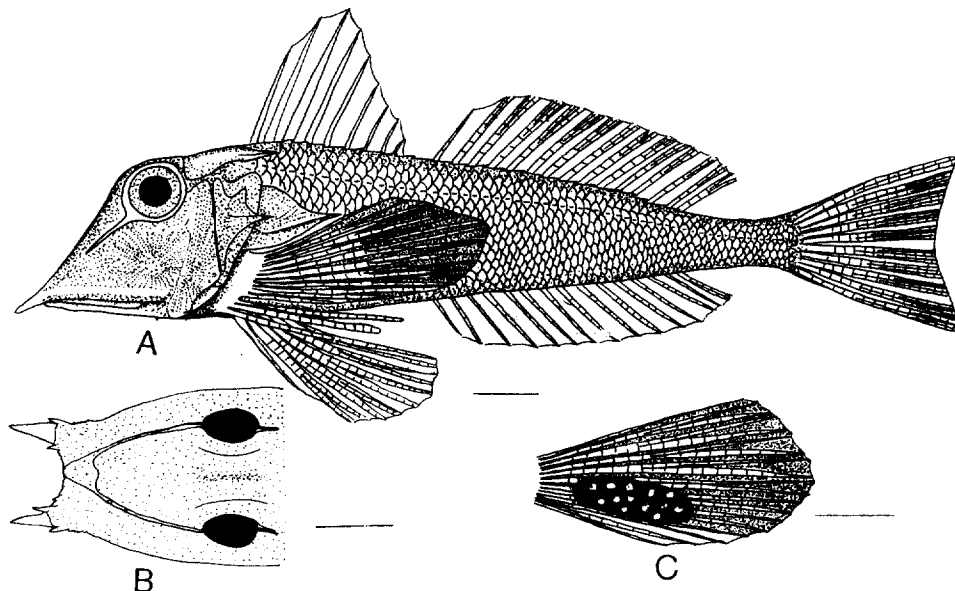
However, it is clearly distinguishable from the latter in having rostral width broader than interorbital one (narrower in *L. abyssalis*), sharply developed rostral spines (weakly) and long maxilla reaching to anterior margin of pupil (not reaching) (Table 1).

**Table 1. Comparisons of several characters between *Lepidotrigla hime*, *L. abyssalis* and present specimens of *L. hime***

Characters	Present specimens	Matsubara and Hiyama (1932)	
		<i>L. hime</i>	<i>L. abyssalis</i>
Dorsal fin rays	IX - 15	IX - 15	IX - 15
Anal fin rays	15	15	15
Lateral line scales	57~60	54	59
SL <sup>1</sup> /Head length(HL)	2.8~3.1	3.14	3.3~3.5
SL/Body depth	3.7~3.9	3.9	3.8~4.4
HL/Orbital diameter	2.7~3.0	2.6	2.9~3.1
HL/Snout length	2.2~2.3	3.62	2.7~3.1
HL/Interorbital width	3.4~3.9	3.0	3.0~3.6
HL/Maxillary length	2.2~2.3	2.6	2.5
Width of rostral spines	RW <sup>2</sup> > IOW <sup>3</sup>	RW > IOW	RW ≤ IOW
Tip of maxilla	reaching to pupil	reaching to pupil	not reaching
Rostral spines	developed	developed	weaked

1 : standard length  
 2 : width of rostral spine  
 3 : interorbital width

***Lepidotrigla kishinouyei* Snyder, 1911**  
 (New Korean name : Bbul - songdae) (Fig. 2)



**Fig. 2. *Lepidotrigla kishinouyei*, BKNU 4310, 128.0 mm SL. A : lateral view, B : dorsal view, C : inside of pectoral fin. Scales indicate 10 mm.**

*Lepidotrigla kishinouyei* Snyder, 1911, p. 543, pl. 56 ; Yamada, 1993, p. 530.

**Materials examined** : BKNU 4301~4305 (5), 102.0~128.0 mm SL, Nampo - dong, Pusan, Feb. 14, 1996 ; BKNU 4306 (1), 103.0 mm SL, Nampo - dong, Pusan, Mar. 28, 1995.

**Description** : Dorsal fin rays IX - 15~17 ; pectoral fin rays iii + 11 ; anal fin rays 14~15 ; pored lateral line scales 56~60 ; scutta on dorsal 23 ; gill rakers 1 + 7~9 ; vertebrae 28~32.

In percentages to the standard length, head length 32.4~35.1 ( $33.4 \pm 0.83$ ), body depth 23.5~26.4 ( $24.8 \pm 1.20$ ), length of predorsal 32.5~35.7 ( $34.0 \pm 1.19$ ), length of prepectoral 29.4~32.8 ( $30.8 \pm 1.20$ ). In percentages to the head length, head depth 69.0~73.3 ( $71.5 \pm 1.29$ ), head width 56.0~67.0 ( $59.4 \pm 3.99$ ), orbital diameter 26.6~29.7 ( $28.0 \pm 1.14$ ), snout length 44.5~48.4 ( $46.0 \pm 1.35$ ), interorbital width 20.8~24.5 ( $22.7 \pm 1.26$ ), width of rostral spines 29.5~36.7 ( $31.7 \pm 2.70$ ), maxillary length 36.9~42.0 ( $38.8 \pm 1.20$ ).

Body rather slender. Snout longer than orbital diameter, about 1.65 times as long as orbit. Upper propile of snout straight ; snout moderately emarginate at tip, and serrated with fine spines, at angle of each prominence of

snout there is a very large and sharp spine (Fig. 2B). Interorbital concave deeply, and shorter than orbital diameter, about 1.15 time in orbital one. Supraorbital spines small and slightly blunt. Humeral spine rather strong and sharp. Nuchal spine hard and sharp, and reaches to base of second or third dorsal spines. Maxilla reaching to anterior margin of orbit. Gill rakers on first arch 0 + 6 (including rudimentary ones 1 + 8~9). Pectoral reaches to base of fourth anal ray.

Distance between upper detached pectoral ray and tip of ventral fin almost equal to eye diameter. Ventral reaches to base of second anal ray.

**Color in 10 % formalin** : The surface of body pale or light brown. Inner surface of pectoral blackish, with a jet black below comprising many white spots (Fig. 2C). Other fins pale.

**Distribution** : The South Sea of Korea, Japan and China.

**Remarks** : *L. kishinouyei* is similar to *L. microptera* Günther in proportional measurements (Table 2). *L. kishinouyei* differs from *L. microptera* in having a large black spot of pectoral fin inside (no black spot in *L. microptera*) and strongly developed rostral spine (weakly) (Table 2).

**Table 2.** Comparisons of several characters between *L. kishinouyei*, *L. microptera* and present specimens of *L. kishinouyei*

Characters	Present specimens	Matsubara and Hiyama (1932)	
		<i>L. kishinouyei</i>	<i>L. microptera</i>
Dorsal fin rays	X - 15~17	VIII - 15	VIII - 17
Anal fin rays	14~15	15	16
Lateral line scales	56~60	60	61
SL*/Head length (HL)	2.9~3.1	3.3~3.4	3.2~3.8
SL/Body depth	3.8~4.3	4.1~4.4	4.4~4.7
HL/Orbital diameter	3.4~3.8	3.2~3.4	3.1~3.5
HL/Snout length	2.1~2.3	2.5~2.7	2.6~2.8
HL/Interorbital width	4.1~4.8	3.95	3.1
HL/Maxillary length	2.4~2.7	2.4	2.32
Rostral spine	well developed	well developed	weaked
Black spots of pectoral inside	present	present	absent

\* standard length

## Acknowledgments

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## 한국산 성대과 어류 2 미기록

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1994년부터 1996년까지 우리나라의 남해 연안에 서식하고있는 성대과 어류를 채집하여 동정한 결과 지금까지 우리나라에서는 서식이 보고되지 않은 *Lepidotrigla hime*와 *L. kishinouyei*로 확인되어 한국산 미기록종으로 보고한다. *L. hime*는 형태적으로 *L. abyssalis*와 비슷하나 문단 가시가 발달되었고, 그 양쪽 가지폭이 양안 간격 보다 넓으며, 상악끝이 동공에 이르는 점이, 그리고 *L. kishinouyei*는 *L. microptera*와 비슷하나 문단 가시가 매우 크고 예리하며, 가슴지느러미 안쪽에는 검은 반점이 크게 있고 그 안에는 여러개의 소형 흰 반점들이 존재하는 점 등이 이들 유사종들과는 잘 구별되었다. 이들의 한국 명으로는 *L. hime*를 “히메성대”, *L. kishinouyei*를 “뿔성대”라고 명명하였다.