

## New Record of the Stargazer Fish, *Uranoscopus tosae* (Uranoscopidae) from Korea

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A stargazer fish, *Uranoscopus tosae* of family Uranoscopidae was collected for the first time in Kunsan, Korea. The *U. tosae* was similar to *U. oligolepis* in exomorphological features but had sharply distinguishable from *U. oligolepis* in the several characteristics. *U. tosae* had the embedded cycloid scales on the nape between both lateral lines, 4 preopercular spines, anterior tubular and posterior slit of nostril pores, and narrower and longer respiratory valve than orbit. No other patterns were presented on the surface of head and body.

### Introduction

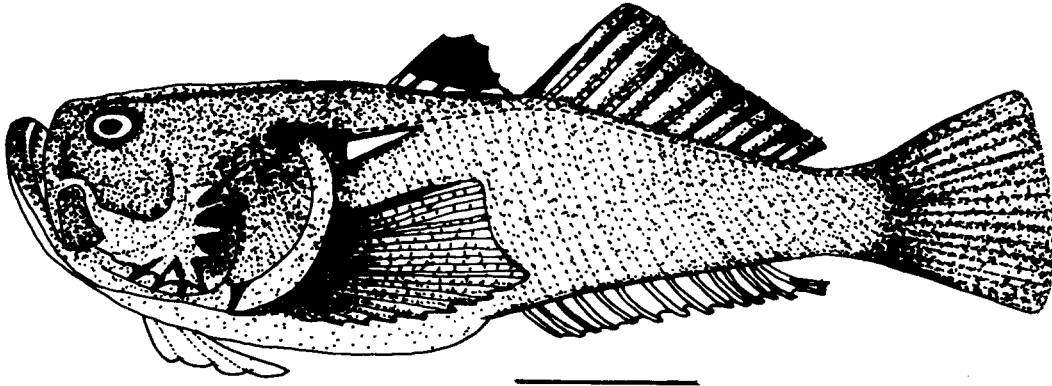
The four species of stargazer fishes, *Uranoscopus japonicus*, *U. bicinctus*, *U. elongatus* and *U. flavipinnis* have been reported (Chyung, 1977 ; Lee, 1991). A specimen of *U. tosae* which did not confirmed in coast of Korea previously was collected for the first time in Kunsan. This species was well distinguished from *U. oligolepis* in several characters although *U. tosae* fairly resembled to *U. oligolepis* in exomorphological features. Kishimoto(1987) and Masuda *et al.*(1988) reported that *U. tosae* from Japan was already confirmed, and Cheng and Zheng(1987) and Chu *et al.*(1985) mentioned that *U. oligolepis* is living in China. But both species were yet to report in Korea.

All counts and measurements of the specimen were made according to the method of Kishimoto(1987). The specimen of *U. tosae* is deposited at the Department of Biology, Kunsan National University(BKNU).

New Record of the Stargazer fish

*Uranoscopus tosae*(Jordan et Hubbs)

(New Korean Name : Bineol-Tonggumeong)(Fig.1)



30 mm

Fig. 1. *Uranoscopus tosae*. SL 166.9mm

Material examined : BKNU 20041, a male, 166.9mm, in standard length(SL), Kunsan-shi, Chollabuk-do, March 27, 1992.

Description : Dorsal fin rays IV-13, anal fin rays 13, pectoral fin rays 17, gill rakers 3+12, preopercular spine 4, upper labial fimbriae 9, lower labial fimbriae 23.

Measurements of important morphological characteristics : depth 30.3, in percentage of standard length(SL) : head length 36.7 ; caudal peduncle length 11.9 ; caudal peduncle depth 10.2 ; length of second spine of the first dorsal fin 9.3 ; length of predorsal 38.9 ; length of prepectoral 36.8 ; length of preventral 26.1 ; length of preanal 58.7 ; prepectoral 36.8 ; length of preventral 26.1 ; length of preanal 58.7 ; length of pectoral fin 23.1. Percentages of head length(HL), snout length 13.9 ; eye diameter 12.9 ; interorbital width 20.4 ; width of gill opening 45.8 ; length of respiratory valve 45.0 ; length of interorbital fossa 25.6.

Comparisons of taxonomic characteristics between *U. tosae* and *U. oligolepis* are shown in Table 1.

Eye small, body short and round form, mouth large and vertical. No surface on the head and body have any patterns and black spots. First dorsal fin black, second dorsal dusky, anal and ventral fin whitish, but pectoral and caudal fin blackish. Labial fimbriae of upper and lower lips were very weak and short(Lee, 1991, fig. 2b). Head slightly depressed on the frontal and the occipital regions.

Teeth on the upper and lower jaws have conical shapes, two rows of upper jaw and anterior two rows and lateral one row of teeth on the lower jaw. The many cycloid scales were embedded on the nape between both lateral lines. The developed oblique rows direct-

Table 1. Comparison of important taxonomic characteristics between *U. tosae* and *U. oligolepis*

Characters	<i>U. tosae</i>	<i>U. oligolepis</i> *
Dorsal fin rays	IV - 13	IV - 13 - 14
Anal fin rays	13	13 - 14
Pectoral fin rays	17	18
Gill rakers	3+12	-
Number of preopercular spine	4	3 - 4
No. of oblique line with scales	45	55
Shape of nostril pores	anterior-tubular, posterior-slit	all tubular
Nape between both lateral lines	scales	scaleless
Teeth form of upper jaw	2 rows	teeth band
Teeth form of lower jaw	anterior-2 rows lateral-1 row	1 - 2 rows
SL/body depth	3.0	3.5 - 4.8
SL/head length	2.7	3.3 - 3.9
HL/snout length	7.2	5.3 - 6.0
HL/eye diameter	7.8	4.6 - 5.5

\* from Fowler(1972), Chu *et al.*(1985) and Masuda *et al.*(1988).

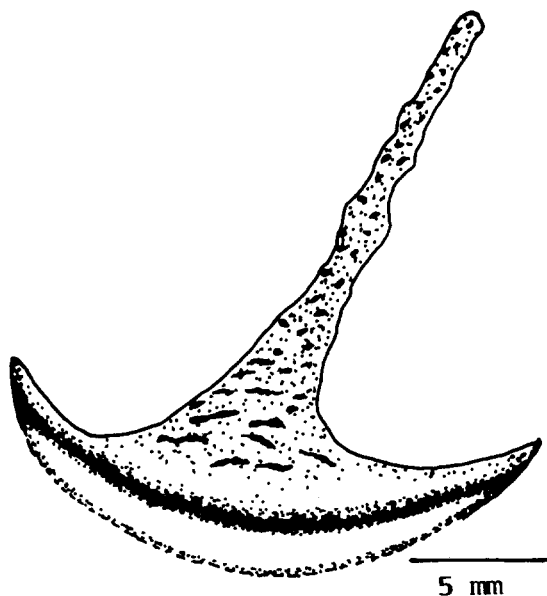


Fig. 2. Respiratory valve of *U. tosae*.

ed downward and backward embedded scales along the oblique lines. Dorsoposterior margin of pectoral fin somewhat concave. Lower edge of preopercular has four spinous processes. The blackish respiratory valve with many black spots was fairly narrower and longer than orbit(Fig. 2). Nostril pores placed in front of eye have two types, anterior tubular and posterior slit(Lee, 1991, fig. 2b).

Body color : Body has dark blackish brown without any net-like patterns and black spots in head and trunk. The surface of body and fins except dorsal fin showed redish when it was fresh specimen before put in the preserved solution. But

when the specimen preserved in 10% formalin solution, the redish color was slowly disappeared. Color upper portion of both lateral lines of body showed almost dark blackish and middle portion of body have blackish, and ventral parts showed almost whitish in adult male.

## New Record of the Stargazer fish

Remark : A starzazer fish specimen distributed in South Sea of Korea was collected from the Kunsan in March 27, 1992. *Uranoscopus tosae* was closely resembled with *U. oligolepis* in morphological but only *U. tosae* are to have embedded scales on the nape between both lateral lines, 4 processes of preopercular and to make anterior tubular and posterior slit of nostril pores. Also *U. tosae* has the following characters : The ratios of standard length to : body depth 3.0 ; head length 2.7 ; caudal peduncle length 8.4 : caudal peduncle depth 9.8 ; length of predorsal 2.6 ; length of prepectoral 2.7 ; length of pre-ventral 3.8 ; interorbital width 3.0 ; width of gill opening 2.2 ; length of snout fossa 3.9 ; length of preanal 1.7. The ratios of head length to ; snout length 7.2 ; eye diameter 7.8 ; length of respiratory valve 2.2. Chu *et al.*(1985), Abe and Ochiai(1989) and Masuda *et al.* (1988) mentioned that *U. tosae* is similar to *U. oligolepis* in exomorphological features except having the scales on the nape between the both lateral lines. Also Shen(1984) reported that respiratory valve of *U. oligolepis* prolonged into broad flap filament and shorter than orbit, but that of *U. tosae* was fairly longer and narrower than orbit.

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한국산 통구멍속(통구멍과) 어류 1미기록종 *Uranoscopus tosae*

이 충 렬

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1992년 3월 전북 군산에서 한국 남해산 통구멍과 어류 중 전장 166.9mm되는 1개체를 수집하여 동정한 결과 지금까지 우리나라에서는 서식이 확인되지 않은 미기록종인 *Uranoscopus tosae*로 동정되었다. 본종의 외부 형태는 *Uranoscopus oligolepis*와 대단히 흡사하나 양쪽 측선 위의 목부분에 비늘이 매몰되어 있고, 전비공은 관상이나 후비공은 slit형이며, 호흡관이 좁고 길며, 전새개골의 하연에는 4개의 가시돌기가 있는 점 등이 *U. oligolepis*와는 달리 *U. tosae*와 일치하게 나타났다. 본 종의 한국명은 측선 위에 비늘이 있는 점을 들어 “비늘통구멍”이라고 명명하였다.