

# New Record of the Stargazer Fish, *Ichthyscopus lebeck sannio*(Uranoscopidae) from Korea

Chung - Lyul Lee and Moon - Ha Paek\*

Department of Biology, Kunsan National University, Kunsan 573 - 701, Korea

\*Department of Aquaculture, Cheju National University, Cheju 690 - 756, Korea

A stargazer fish, *Ichthyscopus lebeck sannio*, of family Uranoscopidae was collected for the first time in Cheju - shi, Cheju - do. *Ichthyscopus lebeck sannio* has several taxonomic characteristics : large white spots on the surface of body ; without cleithrum spine ; developed and branched labial fimbriae on the both lips ; triangular pectoral fin ; having fimbriated membranous projection on upper part of pectoral fin and having single dorsal fin.

## Introduction

The five species of stargazer fishes, *Uranoscopus japonicus*, *U. bicinctus*, *U. flavipinnis*, *U. tosae* and *Gnathagnus elongatus* belong to the family Uranoscopidae from Korea have been reported until now (Chyung, 1977 ; Lee, 1991, 1992). In the neighboring countries, however, the seven species of the family Uranoscopidae from Japan have been reported (Masuda *et al.* 1988 ; Nakabo, 1993) and the six species from China (Cheng and Zheng, 1987), and the five species from Taiwan (Shen, 1990), respectively. A specimen of *I. lebeck sannio* which was not confirmed previously in the coast of Korea was collected for the first time at Tongmoon market of Cheju - shi, Cheju - do in May 15, 1986. This species has been already reported in Japan, China and Taiwan (Masuda *et al.*, 1988 ; Cheng and Zheng, 1987). *I. lebeck sannio* was well distinguished from other stargazer fishes in many characters.

All counts and measurements of the specimen were carried out according to Kishimoto (1987). The specimen of *I. lebeck sannio* is deposited at the Department of Biology, Kunsan National University (BKNU).

### Genus *Ichthyscopus* Swainson

(New Korean Name : Kunmunyi - Tonggumeong - sog)

*Ichthyscopus* Swainson, 1839. Hist. Nat. Fish. etc. 2 : 296 (type species : *Ichthyscopus inermis* Cuvier, 1829 [= *Uranoscopus lebeck* Bloch and Schneider, 1801] by subsequent designation of Gill, 1861).

### *Ichthyscopus lebeck sannio* Whitley

(Fig. 1)

(New Korean Name : Kunmunyi - Tonggumeong)

*Ichthyscopus sannio* Whitley, 1936, Mem. Queens. Mus., II(1), 45 - 46, (Bowen, Queensland).

*Ichthyscopus lebeck sannio*, Masuda *et al.*,

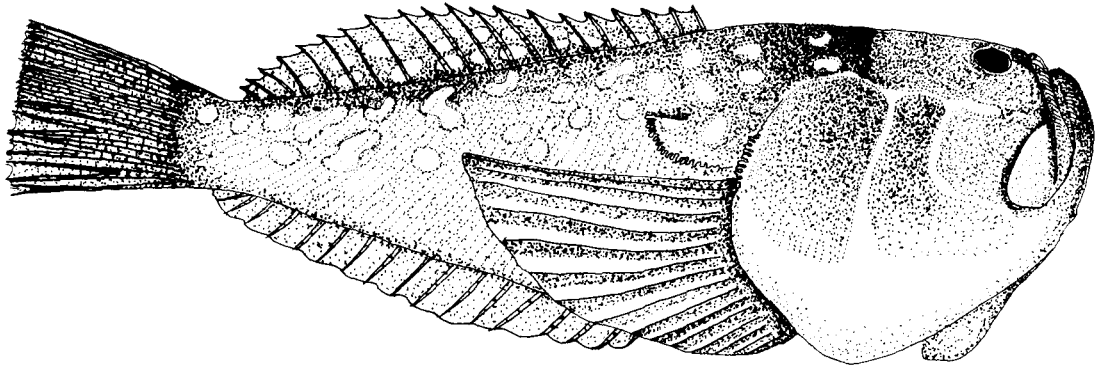


Fig. 1. *Ichthyscopus lebeck sannio*, BKNU 1706, 242.2mm SL. Scale bar indicates 10mm.

1984, Tokai Univ. Press, p.293, pl. 263B – Abe, 1987, Hokuryukan Co., LTD. p. 769 – Nakabo, 1993, Tokai Univ. Press, p. 932.

**Material examined :** BKNU 1706, a specimen, 242.2mm, in standard length(SL), Tongmoon market, Cheju – shi, Cheju – do, May 15, 1986.

**Description :** Dorsal fin rays II,18, pectoral fin rays 17, anal fin rays 16, upper labial fimbriae 25, lower labial fimbriae 49.

Comparison of taxonomic characters between *Ichthyscopus lebeck sannio* and *Gnathagnus elongatus* are showed in Table 1.

Body depth in standard length 34.4 % ; head length 41.1 ; caudal peduncle length 5.9 ; caudal peduncle depth 10.3 ; predorsal distance 43.3 ; prepectoral distance 44.0 ; preventral distance 32.0 ; preanal distance 53.7 ; length of pectoral 26.3 ; head width 32.0 ; snout length 6.0 ; eye diameter 3.5 ; interorbital width 8.1. Head width in head length 77.9 % ; snout length 14.6 ; eye diameter 8.5 ; interorbital width 19.7.

Dorsal fin single. Body short and round form. Head large and cuboid, with internal nares. Head slightly depressed on the frontal and the occipital regions. Mouth large and vertical.

**Table 1. Comparison of taxonomic characters between *Ichthyscopus lebeck sannio* and *Gnathagnus elongatus*.**

Characters	<i>Ichthyscopus lebeck sannio</i>	<i>Gnathagnus elongatus</i>
Origin of dorsal	Intraspace of pectoral	Behind of pectoral
Internal nares	Present	Absent
Cleithrum spine	Absent	Rudimentary
Labial fimbriae	Well developed and branched	Weak and short
Form of pectoral	Triangular	Square
Membranous projection above pectoral base	Present	Absent
Spots color of body surface	White	Dark brown
Size of spots	Large	Small
Dorsal fin	II,18	13 – 14(13)
Pectoral fin	16 – 17	22 – 24(23)

Body some compressed, covered with embedded cycloid scales arranged in oblique rows. The developed oblique rows directed downward and backward embedded scales along it. Spots on the surface of the body and dorsal fin large and white about 5 – 8 mm diameter, but anterior region of head has not any white spots. Cleithrum has no spine. Upper part of the pectoral base has a board – like projection with fimbriated processes in each side. Edge of respiratory valve smooth without any fringes. Labial fimbriae on the upper and lower lips well devel-

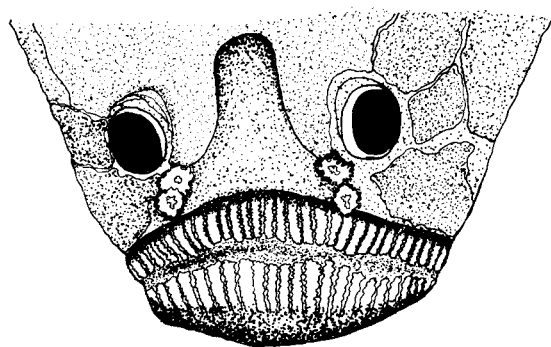


Fig. 2. Fimbriated lips of upper and lower jaw of *Ichthyoscopus lebeck sannio*. Scale bar indicates 10mm.

oped and branched (Fig. 2). The dorsal fin origins intraspaces of pectoral. Form of pectoral fin triangular. Lower edge of preopercular has no spinous process. Two pairs of external nostril pores placed in front of eye, with branched fimbriae around pores.

**Body color :** When specimen placed in 10% formalin solution, surface of body has brown with white spots about 5 - 8mm diameters. The pectoral, anal and caudal fin except ventral fin represented brown without any patterns, but ventral fin has a pale and dorsal fin has several white spots likewise patterns of body surface. When the specimen has fresh, lower margin of pectoral, anal and caudal fin showed yellowish and slightly redish, but these colors are slowly disappeared in 10% formalin solution. The part of nape behind occipital portion showed more dark brown with white spots.

**Distribution :** Around sea of Cheju - do.

**Remark :** *Ichthyoscopus sannio* was reported for the first time by Whitley(1936) in Australia. Whitley(1936) gave emphasis *Ichthyoscopus sannio* from Australian fishes differ from the figures of Indian type mainly in their coloration, shape and proportions. Recently Masuda *et al.*(1984), Abe(1987) and Nakabo(1993) reported that the stargazer fish from Japan described as *I. lebeck* previously was classified

into *I. lebeck sannio*. On the other hand, a specimen belong to the Korean stargazer fish has interorbital fossa much longer than Japanese fish described into *I. lebeck sannio* by Nakabo (1993) (Fig. 2). Pietsch(1989) mentioned that genera *Ichthyoscopus* and *Astroscopus* come under most derived groups in phylogenetic relationships of the family Uranoscopidae.

## References

- Abe, T. 1987. Illustrated Fishes of the World in Color. Hokuryukan Co., LTD. 769.
- Cheng, Q. and B. Zheng. 1987. Systematic Synopsis of Chinese Fishes. 1 - 2, Science Press, China, 392 - 393, pls. 2059 - 2064.
- Chyung, M. K. 1977. The Korean Fishes. Ilji - sa, 418 - 420.
- Kishimoto, H. 1987. A new stargazer, *Uranoscopus flavipinnis*, from Japan and Taiwan with redescription and neotype designation of *U. japonicus*. Japanese J. Ichthy. 34(1) : 1 - 13.
- Lee, C. L. 1991. First record of stargazer fish, *Uranoscopus flavipinnis*, from Korea. Korean. J. Ichthy. 3(2) : 84 - 88.
- Lee, C. L. 1992. New record of the stargazer fish, *Uranoscopus tosae*(Uranoscopidae) from Korea. Korean. J. Ichthy. 4(2) : 26 - 30.
- Masuda, H., K. Amaoka, C. Araga, T. Uyeno and T. Yoshino. 1984. The Fishes of the Japanese Archipelago. Tokai University Press, Tokyo, p. 293.
- Nakabo, T. 1993. Fishes of the Japan with Pictorial Keys to the Species. Tokai University Press, Tokyo, 931 - 932.
- Pietsch, T. W. 1989. Phylogenetic relationships of trachinoid fishes of the family Uranoscopidae. Copeia(2) : 253 - 303.
- Shen, S. C. 1990. Synopsis of Fishes of Taiwan. SMC. pub. INC Taipei, pp.378 - 379.
- Swainson, W. 1839. On the natural history and classification of fishes, amphibians and reptiles or monocardian animals. 2, London, England.
- Whitley, G. P. 1936. More ichthyological miscellanea. Mem. Queens. Mus., Australia, II(1), p. 45.

韓國産 통구멍科 魚類 1 未記錄種, *Ichthyscopus lebeck sannio*

李 忠 烈 · 白 文 河\*

群山大學校 自然大學 生物學科

\*濟州大學校 海洋科學大學 增殖學科

1986年 5月 濟州道에서 採集한 통구멍科 어류 중 體長 242.2 mm 되는 1個體를 동정한 結果 지금 까지 우리나라에서는 棲息이 確認되지 않은 未記錄種인 *Ichthyscopus lebeck sannio*으로 同定되었다. 본 종은 外部 形態的으로 등지느러미가 1개이고 口술에는 돌기가 발달되어 있고, 體표면에는 커다란 하얀 斑點이 많이 있으며 鰓골돌기가 없는 점 등이 本種의 主要 特徵으로 나타나고 있다. 본 종의 韓國名은 體표면에 흰무늬가 크게 나 있는 것이 눈에 잘 띠기 때문에 “큰무늬통구멍屬”의 “큰무늬통구멍”이라고 命名하였다.