

First Record of Ghost Flatheads, *Hoplichthys langsdorfii*, from Korea

Chung - Lyul Lee

Department of Biology, College of Natural Sciences,
Kunsan National University, Kunsan 573-360, Korea

A ghost flatheads, *Hoplichthys langsdorfii* Cuvier and Valenciennes of the family Hoplichthyidae was studied for the first time in Korea. Eighteen specimens were collected from Pusan in February 3, 1993. The *Hoplichthys langsdorfii* is similar to *H. gilberti* in morphometric characters, but *H. langsdorfii* differs from *H. gilberti* in having 2 rows of spinous processes on the scute of both side of body and longer snout than eye diameter. A new Korean name "Gasiyangtae" is proposed for the *H. langsdorfii*.

Introduction

Family Hoplichthyidae is not yet reported in Korea. At present only one genus and 10 species have been reported throughout the world for the family Hoplichthyidae (Matsubara and Ochiai, 1950 ; Nelson, 1984). On the other hand, five species of the family Hoplichthyidae have been reported from Japan (Matsubara, 1979 ; Masuda et al., 1988 ; Nakabo, 1993) and three species from China and Taiwan, respectively (Cheng and Zheng, 1987 ; Shen, 1984, 1990).

As the morphological characters, it is known that species of the family Hoplichthyidae are body elongated, head extremely depressed and very wide with many spines, no scales on the head and body, row of spiny scutes with processes along side of body and lower pectoral rays (three or four) free.

The specimens of *Hoplichthys langsdorfii*, a species not reported in the coast of Korea, were collected for the first time in Pusan of Korea. This species was well distinguished from *H. gilberti* in several characters although *H. langsdorfii* fairly resembled to *H. gilberti* in morphological features.

All counts and measurements of the specimens were made according to Matsubara (1979). The specimens of *H. langsdorfii* were deposited at the Department of Biology, Kunsan National University (BKNU).

First Record of Ghost Flatheads, *Hoplichthys langsdorfii*, from Korea

Family Hoplichthyidae

(New Korean Name : Gasiyangtae - kwa)

Head well depressed, without scales, rather spiny head with bony ridge across cheek to preopercle. Body elongate and tapering, no scales, a row of spiny scutes along both side of body. Two separate dorsal fins, first dorsal fin flexible, anal fin without spine, 3-4 lower pectoral rays detached.

Genus *Hoplichthys* Cuvier et Valenciennes, 1829

(New Korean Name : Gasiyangtae - sog)

Hoplichthys Cuvier et Valenciennes, 1829, Hist Nat. Poiss., 4, table of contents (type specimen : *Hoplichthys langsdorfii* Cuvier et Valenciennes).

Hoplichthys langsdorfii Cuvier et Valenciennes, 1829

(New Korean Name : Gasiyangtae)

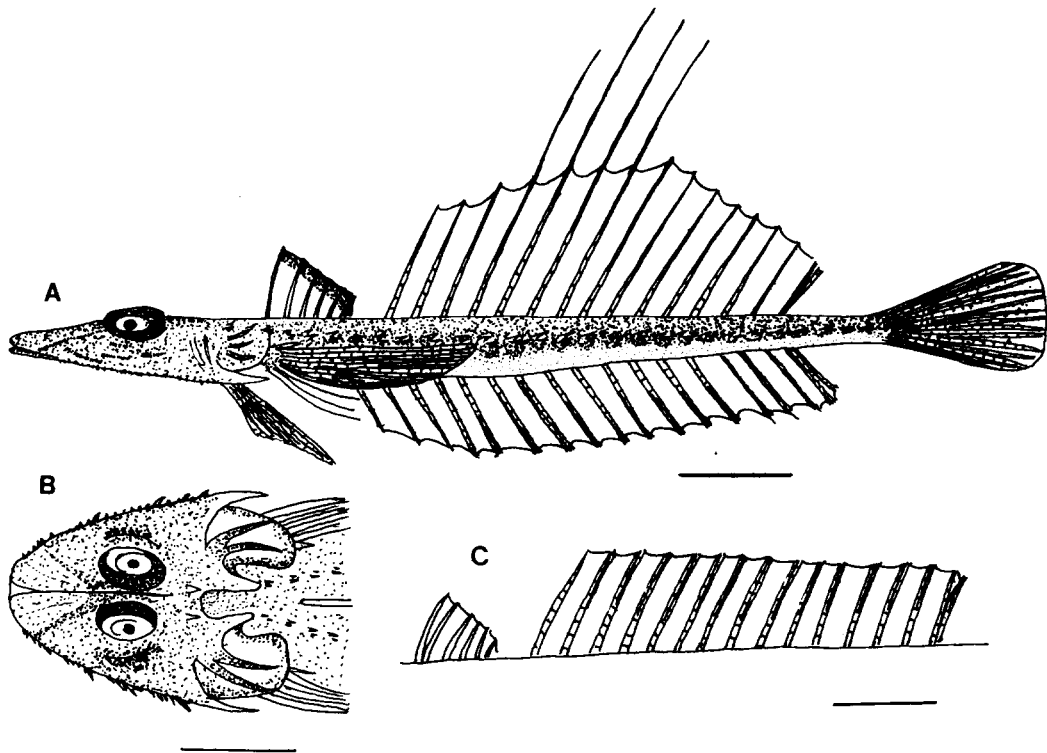


Fig. 1. *Hoplichthys langsdorfii* A : Lateral view, B : Dorsal view of Head, C : dorsal fin of female. Bars indicate 20mm.

Hoplichthys langsdorfii Cuvier et Valenciennes, 1829, Hist. Nat. Poiss., 4 : 264, pl. 81(Japan) - Matsubara, 1978, Ishizaki-Shonten, p. 1129 - Chu, 1985, Fujian Science and Technology Press, Part II, pp. 511 - 512 - Cheng and Zheng, 1987, Science Press, Beijing, China, p. 483 - Masuda *et al.*, 1988, Tokai University Press, p. 322 - Nakabo, 1993, Tokai University Press, pp. 540 - 541.

Material examined : BKNU 20001 - 20018, 18 specimens, 133.0 - 167.0mm, in standard length, Pusan Chung - gu Nampo - dong, Feb. 3, 1993.

Description : Dorsal fin rays VI - 15, anal fin rays 17, pectoral fin rays 12 + 3, ventral fin rays I, 5, gill rakers 11 - 14, scutes 27.

Percentages to standard length, body depth 7.0 - 8.8(7.8), head length 27.9 - 30.6(29.2), caudal peduncle length 3.6 - 5.6(4.2), caudal peduncle depth 2.0 - 2.3(2.1), snout length 7.3 - 10.6(9.8), eye diameter 6.1 - 7.0(6.6), interorbital width 1.5 - 1.9(1.7), length of predorsal 27.6 - 30.9(29.3), length of prepectoral 25.3 - 28.0(26.4), length of preventral 22.0 - 24.9(23.2), length of preanal 38.6 - 41.9(40.0), distance between pectoral and ventral 2.6 - 4.3(3.4), distance between ventral and anal 15.8 - 19.5(17.7). Percentages to head length, snout length 32.5 - 35.9(34.1), eye diameter 21.1 - 24.4(22.7), interorbital width 5.1 - 6.3(5.7).

Head and body well depressed, body elongate, slender and tapering, but slightly round form in posterior part of body. Two separate dorsal fins, first dorsal fin flexible, 4 - 7 rays of second dorsal fin very elongated in males(Fig.1) but not in female. Ventral of snout has many short spinous processes of a row. No scales on the surface of body and head. A row of spiny scutes along both side of body with 2 strong spines directed backwards which upper processes are larger than lower it(Fig.2). Snout length is longer than eye diameter. Anal fin without spine, and 3 lower pectoral rays detached from other rays of pectoral fin. Circumorbital bones made up five elements which are one preorbital and four

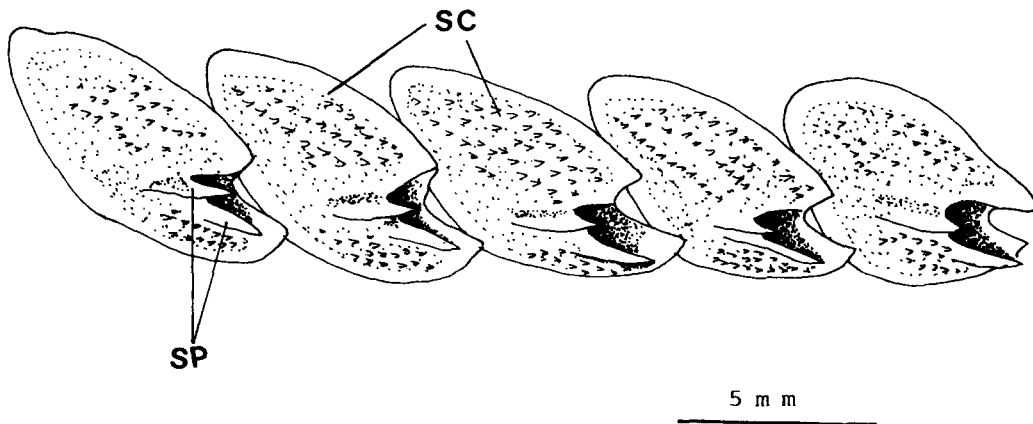


Fig. 2. The scutes of *H. langsdorfii* SC : scute, SP : spines

suborbital bones, with many short spiny processes in the margin(Fig. 3).

Color in 10% formalin : Ground color of head and body whitish, or whitish - pale, also in ventral, with many irregular small blackish spots on the surface of body and head. Margin of first dorsal fin dark blackish in males, but not in females. Anal fin is pale in males and females.

Sex dimorphism : In the males, fourth to seventh rays of second dorsal fin long filamentous, but no long in females(Fig. 1). Margin of first dorsal fin dark blackish, but not in females.

Remarks : The family Hoplichthyidae has not been reported in Korea until now. But this was already reported in Japan(Matsubara and Ochiai, 1950 ; Matsubara, 1987 ; Masuda et al., 1988 ; Nakabo, 1993). China(Chu, 1985 ; Cheng and Zheng, 1987) and Taiwan(Shen, 1984, 1990). The external appearances of this species were closely related to those of *Hoplichthys gilberti*, but it sharply differed from the *H. gilberti* in having two characteristics with 2 rows of spine on the scute of both side of body(*H. gilberti* has a

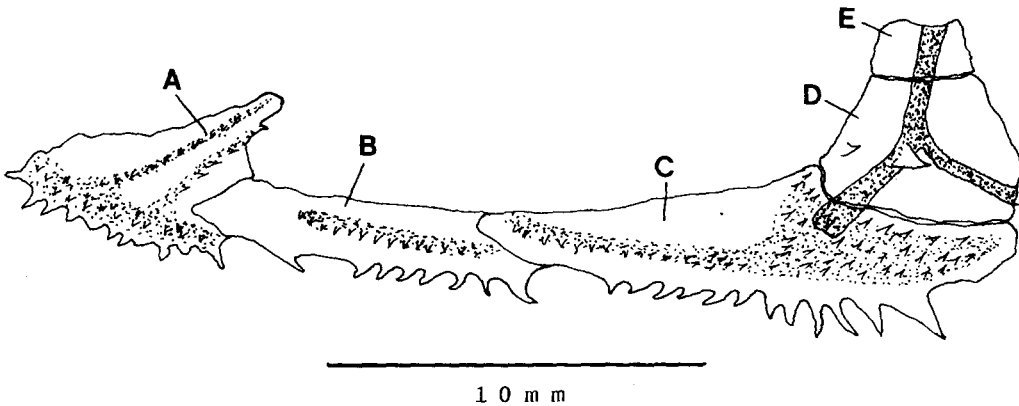


Fig. 3. Circumorbital bone of *H. langsdorfii*. A : preorbital bone, B - E : suborbital 1 - 4.

Table 1. Comparison of some meristic counts between *Hoplichthys langsdorfii* and *H. gilberti*

Characters	Present specimens	<i>H. langsdorfii</i>		<i>H. gilberti</i>
		Masuda <i>et al.</i> *	Chu **	Masuda <i>et al.</i> *
Dorsal fin ray	VI - 15	VI - 15	VI - 15	VI - 15
Anal fin ray	17	17	17	17
Pectoral fin ray	12+3	12 - 13+3 - 4	13+3	11 - 13+3 - 4
No. of scutes	27	27 - 28	27 - 28	27 - 28
No. of row of spines on the scutes	2	2	2	1
Gill rakers	11 - 14	10 - 14	15	10 - 13
Snout length	> ED ***	> ED	> ED	< or = ED

* : Masuda *et al.*, (1988). ** : Chu, (1985). *** : Eye diameter

row)(Fig. 2) and longer snout than eye diameter. Matsubara and Ochiai(1950) also emphasized that the differences between *H. langsdorfii* and *H. gilberti* were shown in the number of rows of spine on the scutes and the length of snout. It is assumed that this species is distributed throughout the South Sea of Korea.

References

- Cheng, Q. and B. Zheng. 1987. Systematic synopsis of Chinese fishes. vol. 1-2. Science Press, Beijing, China. pp. 482-483. pl. 2495-2497.
- Chu, Y. 1985. The fishes of Fujian Province. part II. Fujian Science and Technology Press, China. pp. 511-512.
- Cuvier, G. and A. Valenciennes. 1828-49. Histoire naturelle des poissons. 22 Vols., 650 pls., Paris.
- Masuda, H., K. Amaoka, C. Araga, T. Uyeno and T. Yoshino. 1988. The fishes of the Japanese archipelago. Tokai University Press. pp. 322-323.
- Matsubara, K. 1979. Fish morphology and hierarchy. part II. Ishizaki-Shoten, Tokyo, Japan. pp. 1123-1130.
- Matsubara, K. and A. Ochiai. 1950. Studies on Hoplichthyidae, a family of mail cheeked fishes, found in Japan and its adjacent waters I, II. Jap. J. Ichthyol. 1(2) : 73-88.
- Nakabo, T. 1993. Fishes Japan with pictorial keys to the species. Tokai University Press. pp. 540-441.
- Nelson, J. S. 1984. Fishes of the world. 2nd ed., Wiley-Interscience. pp. 264-265.
- Shen, S. C. 1984. Coastal fishes of Taiwan. National Taiwan University Press, p. 34.
- Shen, S. C. 1990. Synopsis of fishes of Taiwan. SMC Publishing INC., p. 205.

한국산 *Hoplichthyidae*과 어류 1 미기록종 *Hoplichthys langsdorfii*

이 충 렬
군산대학교 자연대학 생물학과

1993년 2월 부산에서 채집된 Hoplichthyidae과 어류 18개체(체장 133.0-167.0mm)를 조사해 본 결과 지금까지 우리나라에서는 알려지지않은 *Hoplichthys langsdorfii* Cuvier et Valenciennes로 동정되었는데 본 종은 우리나라에서는 아직까지 분류학적으로 미기록과, 미기록속에 해당되었다. 본 종은 두부와 가슴 부분이 매우 종편되어 있으며 외부 형태적으로는 *H. gilberti*와 아주 흡사 하나 *H. gilberti*와는 달리 체측 scute 위에 2줄의 가시 돌기가 나 있고 문장이 안경 보다 길다는 점에서 잘 구별되어 이들의 특징을 기재하면서, 본종을 한국명으로는 "가시양태과, 가시양태屬, 가시양태"로 명명한다.