

(Notes)

**New record of the snake eel *Ophichthus asakusae*  
(Ophichthidae: Anguilliformes) from Korea**

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We describe *Ophichthus asakusae* from Korea based on a single specimen (426.0 mm TL) collected from the southern sea off Jeju Island. The species is characterized by a pointed, hard, sponge-like tail tip without a caudal fin and 126-132 total vertebrae. We propose a new Korean name, "Je-ju-ba-da-baem" for the species.

Key words: *Ophichthus asakusae*, New Korean record, Trawl, Jeju Island

**Introduction**

The snake-eel genus *Ophichthus* Ahl, 1789 is characterized by a tubular anterior nostril, a dorsal fin originating behind the gill opening, well developed pectoral fins, no flange on the upper lip, and eyes situated over the middle of the upper jaw (McCosker et al. 1989; Lee and Asano, 1997). To date, three *Ophichthus* species have been known from Korean waters: *Ophichthus evermanni* Jordan and Richardson, 1909, *O. urolophus* (Temminck and Schlegel, 1846), and *O. rotundus* Lee and Asano, 1997.

Recently, we collected a single specimen belonging to the genus *Ophichthus* from the southern sea off Jeju Island, Korea during a trawl survey conducted by the National Fisheries Research & Development of Institute, Korea. The specimen was identified as *Ophichthus asakusae* Jordan and Snyder, 1901, representing a new Korean record of the species. In the present study, we describe the species based on the specimen.

Counts and measurements follow those of Hubbs and Lagler (1958), and the voucher specimen is deposited in the National Institute of Biological Resources (NIBR-P), Korea.

**Systematic account**

***Ophichthus asakusae* Jordan and Snyder, 1901**

(New Korean name: Je-ju-ba-da-baem)

(Figs. 1-2; Table 1)

*Ophichthus asakusae* Jordan and Snyder, 1901: 872, fig. 18 (type locality: outside Bay of Tokyo, Misaki, Japan); Sumida and Machida, 2000: 64 (Tosa Bay, Japan); Tang and Zhang, 2004: 21 (East China Sea).

**Material examined**

NIBR-P0000004300, 426.0 mm in total length (TL), 32°44.51'N, 126°15.85'E-32°44.48'N, 126°17.22'E, 103 m depth, southern sea off Jeju Island, Korea, 27 April 2006, Jung Hwa Choi and Byung-Jik Kim, bottom trawl, R/V *Tamgu 1-ho* [formerly registered to MRIC (Marine and Environmental Research Institute, Cheju National University, Korea) 2921]

**Description**

Counts and measurements are given in Table 1.

Body anguilliform and tapering; tail hard, sponge-like, and pointed. Caudal fin absent. Eye rather small and round. Snout small, with a blunt anterior tip. Dorsal surface of snout slightly wrinkled. Anterior nostril well developed forming a nasal tube; posterior nostril with a dermal flap opening downward from

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Table 1. Comparison of counts and measurements between the Japanese specimens (Sumida and Machida, 2000) and the Korean specimen of *Ophichthus asakusae*

	Present study	Sumida and Machida (2000)
Total length (TL, mm)	422.4	543.0-835.7 (n=13)
<b>Counts</b>		
Cephalic sensory pores		
Supratemporal	1+4	1+4
Infraorbital	4+2	4+2
Preoperculomandibular	8+3	7-8+2-3
Lateral line pore		
Branchial region	8	8-10 (mode 8)
Preanal	56	51-58 (54)
Total	129	121-137 (126, 127)
Vertebrae	128	126-132 (129, 130)
Pectoral fin rays	15	13-16 (16)
<b>Measurements</b>		
In % TL	11	11-12 (mean 11)
Head length	12	12-13 (12)
Predorsal length	14	13-14 (14)
Preanal length	44	42-45 (44)
Tail length	57	55-58 (56)
Depth at anus	4	3-5 (4)
Tail depth at posterior 1/3 of tail	4	3-4 (4)
Tail width at posterior 1/3 of tail	4	2-4 (3)
Distance between last lateral line pore and tail tip	2	2-4 (2)
In % HL		
Snout length	19	13-21 (18)
Eye diameter	10	7-12 (9)
Interorbital width	16	14-18 (16)
Upper jaw length	39	36-43 (41)
Lower jaw length	36	32-40 (37)
Pectoral fin length	27	22-26 (24)
Isthmus width	24	18-28 (21)
Gill opening length	12	10-17 (13)
Depth at posterior 1/3 of tail / depth at anus (%)	93	79-100 (87)
Width at posterior 1/3 of tail / depth at anus (%)	82	63-78 (72)



Fig. 1. *Ophichthus asakusae* Jordan and Snyder, NIBR-P0000004300, 426.0 mm TL, southern sea off Jeju Island, Korea.

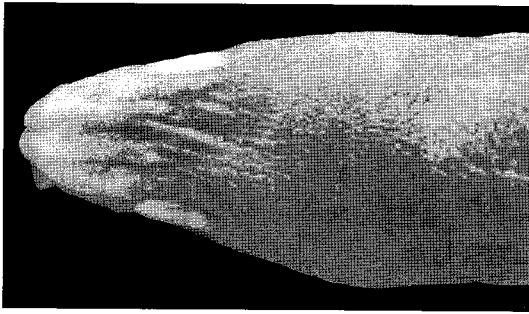


Fig. 2. Dorsal surface of head in *Ophichthus asakusae*, NIBR-P0000004300 showing wrinkled condition.

lower margin of upper jaw. Upper jaw slightly longer than lower jaw. Teeth on upper jaw small, conical, uniserial; on lower jaw small, conical, irregular, 1-2 rows anteriorly and becoming a single row posteriorly. Teeth on vomer, small, conical, 1-2 rows anteriorly and a single row posteriorly. Many small short papillae around mouth. Gill slit situated anterior to base of small round pectoral fin. Dorsal and anal fins in median grooves; dorsal fin originates above center of pectoral fin. Caudal fin absent. No scales on head or body.

*Color when fresh* — Head and body uniformly pale brownish without any dark streaks or markings, ventral portion of head and belly whitish.

*Color in alcohol* — Uniform olive brown, belly paler, without any dark streaks or marking; dorsal and anal fin pale with whitish edges.

#### Distribution

Known from Japan (Misaki of Kanagawa Prefecture southward to Kochi Prefecture, Hatooka, 2002), Korea (Jeju Island, present study), and China (East China Sea, Tang and Zhang, 2004).

#### Remarks

We identified the present specimen from Korea as *O. asakusae* due to its close accord with the original description, with dorsal fin insertion over the middle of the pectoral fin and a blunt tail. The specimen was also compared with the type images from Type Imagebases of the Ichthyology department, California Academy of Science, USA (<http://research.calacademy.org/research/ichthyology/Types/>). Additionally, except for the length of the pectoral fin and the depth and width of the tail (Table 1), the present specimen agrees well with the detailed description of the species given by Sumida and Machida (2000), who examined Japanese materials from the species. These differences were minute enough to be regarded

as intraspecific variations or changes with growth.

*Ophichthus asakusae* is similar to *O. urolophus* (Temminck and Schlegel, 1846) in general appearance. These two *Ophichthus* species have been differentiated from each other by the relative positions of their dorsal fin origins and the posterior margin of the pectoral fins and by the depth of their tails (Asano, 1984; Hatooka, 1993, 2002). However, it has been considered that both of the above characteristics show inter- and/or intraspecific variations (Matsuura, 1955; Sumida and Machida, 2000). In particular, Sumida and Machida (2000; Table 9) presented some useful characteristics for differentiating between these two species, including the condition of the dorsal surface of the snout and area near the tail tip and the number and some osteological characteristics of the vertebrae.

Among the diagnostic characteristics for differentiating between the two *Ophichthus* species provided by Sumida and Machida (2000), the condition of the dorsal surface of the snout seems to be affected by the storage condition or size of specimens examined, as we could not confirm the shallow hollow described by Sumida and Machida (2000) on the dorsal surface of the snout of the present specimen. The dorsal surface of snout of the present specimen was slightly wrinkled rather than formed into a shallow hollow (Fig. 2). We propose a new Korean name, “Je-ju-ba-da-baem” for the species.

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