

First Record of a Clingfish, *Aspasma minima* (Perciformes: Gobiesocidae) from Korea

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ABSTRACT A specimen of *Aspasma minima* (25.4 mm SL) belonging to the family Gobiesocidae was collected from coastal waters near Hamdeok in Jeju Island, Korea. This species is characterized by having 6~9 dorsal fin rays, 5~9 anal fin rays, 20~24 pectoral fin rays, many red spots on head and body when fresh, and posterior end of upper jaw not reaching anterior margin of eye. Our specimen is well matched in its morphological characteristics with previous descriptions of *A. minima*. Thus, we newly add this species to the Korean fish fauna and propose its new Korean name, "Kkoma-hak-chi".

Key words : Gobiesocidae, *Aspasma minima*, first record, Jeju Island, Korea

INTRODUCTION

The clingfishes (Family Gobiesocidae), comprising about 36 genera and 140 species in the world, are characterized by having pelvic fins modified into a thoracic suction disc (Briggs, 1955; Allen, 1984; Nelson, 2006). In Korea, two clingfish species (*Aspasmichthys ciconiae* Regan, 1921 and *Lepadichthys frenatus* Waite, 1904) have been collected and reported from the coastal waters of Jeju Island so far (Uchida and Yabe, 1939; Kim *et al.*, 2005).

In this study, one specimen of *Aspasma minima* was collected from the Hamdeok coastal waters of Jeju Island, Korea. The habitat is mainly rocky shore with sporadically having some sands. As *A. minima* has not been reported from Korea yet, the morphological descriptions of the species were provided based on the specimen and it was newly added to the Korean fish fauna.

Counts and measurements were followed by the method of Hubbs and Lagler (1964). The examined specimen is deposited at the Fish Genetics and Breeding Laboratory, Cheju National University (CNU), Korea.

Genus *Aspasma* Jordan and Fowler, 1902

(New Korean name: Kko-ma-hak-chi-sok)

Aspasma Jordan and Fowler, 1902: 414 (type species: *Lepadogaster minimus* Döderlein, 1887).

The monotypic genus *Aspasma* comprises a single spe-

cies (The Catalog of Fishes On-line: www.calacademy.org); no prominent vertical ridges on sides of body; about 8 well-developed rakers on second gill arch; dorsal rays 7~9; disc length 4.8~5.2 in standard length; head length 3.2~3.6 in standard length; a short and blunt snout and small mouth; upper jaw with 2 rows of incisors; disc small and rounded (Briggs, 1955).

Aspasma minima (Döderlein), 1887

(New Korean name: Kko-ma-hak-chi)

(Fig. 1; Table 1)

Lepadogaster minimus Döderlein in Steindachner and Döderlein, 1887: 270 (type locality: Sagami Bay, Japan).

Aspasma minima: Briggs, 1955: 135 (Japan); Yoshino in Masuda *et al.*, 1984: 341 (Japan); Hutchins in Randall and Lim, 2000: 598 (listed, South China Sea); Hayaishi in Nakabo, 2002: 1122 (Japan).

Material examined. CNU 20051125, one specimen, 25.4 mm in standard length (SL), Hamdeok-ri, Jocheon-eup, Jeju-si, Jeju-do, Korea, 25 November 2005.

Description. Counts for the present specimen are shown in Table 1. Measurements are presented as a percentage against SL: Body depth 12.2; body width 15.2; head length 30.5; head depth 12.4; head width 17.7; snout length 7.1; eye diameter 5.7; interorbital width 9.1; snout to dorsal fin origin 74.8; snout to anal fin origin 79.7; snout to anus 56.9; snout to disc 20.7; dorsal fin base 13.8; anal fin base 11.4; first disc length 7.1; second disc length 6.7; first disc width 12.8; second disc

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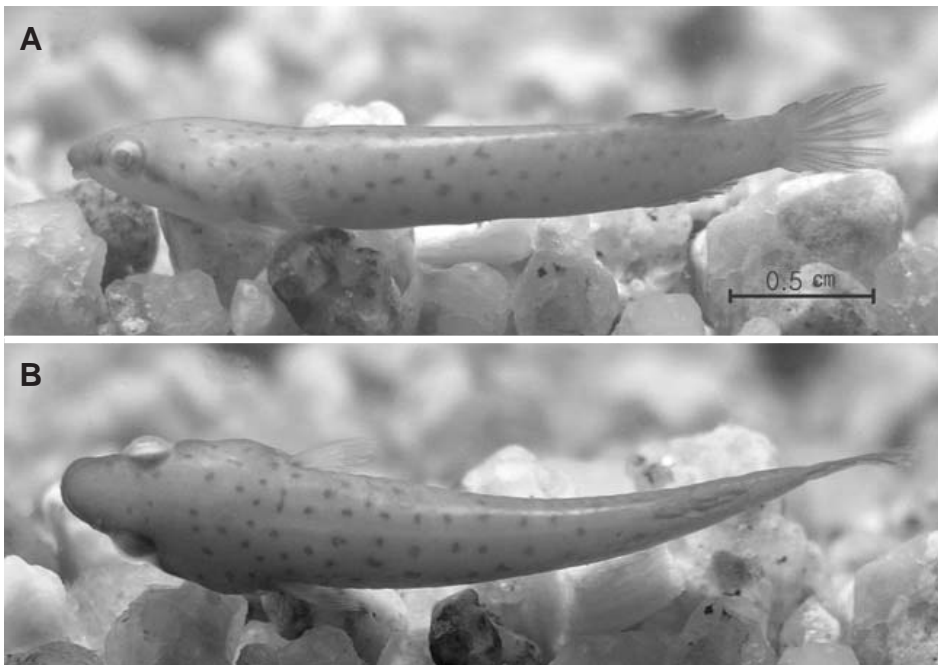


Fig. 1. *Aspasma minima* (Döderlein), CNU 20051125, 25.4 mm SL, Hamdeok-ri, Jocheon-eup, Jeju-si, Jeju-do, Korea. A: lateral view, B: dorsal view.

Table 1. Morphological characters of *Aspasma minima* observed and reported previously

Morphological characters	Present study	Briggs (1955)	Hayashi and Hayashi (1985)
Standard length (mm)	25.4 (n=1)	? ~ 52.3 (n=90)	12.2 ~ 52.9 (n=39)
No. fin rays			
Dorsal fin rays	8	7 ~ 9 (8)	6 ~ 8 (7)
Anal fin rays	6	6 ~ 9 (7)	5 ~ 8 (7)
Pectoral fin rays	22	21 ~ 24 (22)	20 ~ 23 (21)
Caudal fin rays	10	8 ~ 9 (8)	9 ~ 11 (10)
No. sensory canal openings on head			
Nasal canal openings	2	—	2
Postorbital canal openings	2	—	2
Lachrymal canal openings	2	—	2
Preopercular canal openings	3	—	3
Mandibular canal openings	0	—	0

The values in parenthesis indicate mean.

width 8.7; pectoral fin length 8.5. Measurements are presented as a percentage against head length: head depth 40.7; head width 58.1; body depth 40.0; body width 49.0; snout length 23.2; eye diameter 18.7; inter-orbital width 29.7.

Body slender and slightly depressed anteriorly; head and body scaleless; head slender and well depressed; mouth rounded and posterior end of upper jaw not reaching anterior margin of eye; dorsal and anal fins consisting of unbranched rays; anus little closer to posterior margin of ventral disc than to origin of anal fin; pelvic fins modified into a thoracic sucking disc with double round-shaped which divided by region C (Fig. 2); many ventral disc papillae on regions both B and C but no papillae in the central region of A (for details, see Briggs, 1955).

Color when fresh. Body pinkish; many reddish spots on head and body; upper head reddish and down pale; a somewhat reddish line from snout passing backward through eye; dorsal and anal fins brownish pink; caudal fin brownish yellow; ventral part on head and sucking disc white.

Color after preservation. Head and body uniformly yellowish; no spots on head and body.

Distribution. Korea (Jeju Island, present study), Japan (Hayashi, 2002), and South China (Hutchins, 2000).

Remarks. *Aspasma minima* is characterized by having pectoral fin modified into a sucking disc of pelvic fins “double” type, head with 3 pairs of preopercular canal pores and posterior end of upper jaw not reaching anterior margin of eye (Briggs, 1955; Hayashi, 2002). Morphological characters of the present specimen were agreed

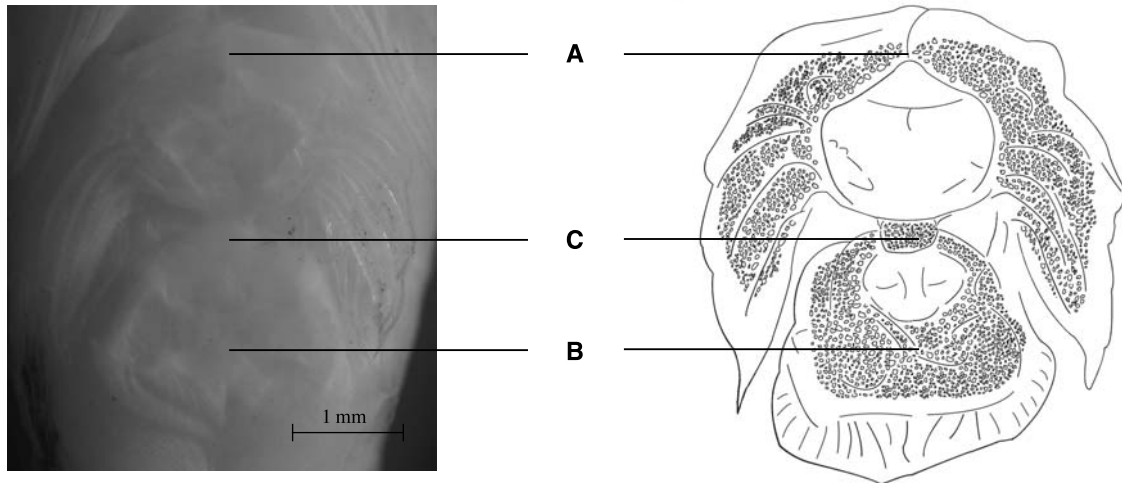


Fig. 2. Ventral disc diagram of *Aspasma minima*. A, B, and C indicate disc regions mentioned in the text.

well with those of the previous reports on *A. minima* (see Table 1).

A. minima is easily distinguished from the other Korean gobiesocids, *A. ciconiae* and *L. frenatus*, in having 6~9 dorsal fin rays (vs. 11~12 in *A. ciconiae* and 16~17 in *L. frenatus*), many red spots on body and head (vs. horizontal bands in *A. ciconidae* and no spots and bands in *L. frenatus*) (Hayashi, 2002; Kim *et al.*, 2005). This species is also distinguished from its most similar species, *Propherallodus briggsi* in having posterior end of upper jaw not reaching anterior margin of eye (vs. posterior end of upper jaw extending beyond anterior margin of eye) (Hayashi, 2002).

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한국산 학치과(농어목) 어류 1 미기록종, *Aspasma minima*

한송헌 · 김맹진 · 김병엽 · 최찬문 · 송춘복

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요 약 : 학치과(Family Gobiesocidae)에 속하는 *Aspasma minima* 1개체가 제주도 조천읍 함덕리 연안에서 처음 채집되어 형태형질을 조사하였다. 이 종은 등지느러미 기조수 6~9개, 뒷지느러미 기조수 5~9개, 가슴지느러미 기조수 20~24개, 그리고 몸과 머리에는 많은 붉은 점이 산재하고, 위턱의 뒤 가장자리가 눈의 앞부분까지 도달하지 않는 특징을 갖고 있다. 이 미기록종의 신한국명을 “꼬마학치”라고 명명하였다.

찾아보기 낱말 : 학치과, 꼬마학치, 미기록종, 제주도