

First Record of the Sleek Unicornfish, *Naso hexacanthus* (Acanthuridae, Perciformes) from Korea

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ABSTRACT A single specimen (351.1 mm SL) of the sleek unicornfish, *Naso hexacanthus*, belonging to Acanthuridae was firstly collected from the coastal waters of Jeju Island, Korea. The species is characterized by having brownish vertical bands on the dorsal fin and two pale purple bony plates on caudal peduncle. We add this species to the Korean fish fauna and propose its new Korean name, "Nam-bang-pyo-mun-jwi-chi."

Key words : Acanthuridae, *Naso hexacanthus*, first record, Jeju Island, Korea

The family Acanthuridae, comprising six genera and about 80 species, is widely distributed in all tropical and subtropical seas except the Mediterranean Sea, and characterized by having one or more distinctive spines on both sides of caudal peduncle (Nelson, 2006; Kim *et al.*, 2007). Among them, five species belonging to three genera (*Acanthurus* Forsskål, 1775; *Naso* Lacepède, 1801; *Prionurus* Lacepède, 1804) have been reported from coastal waters of Korea.

The genus *Naso*, comprising 17 species, can be distinguished from other two genera by having two anal fin spines (vs. three in *Acanthurus* and three or four in *Prionurus*), three pelvic fin rays (vs. five in *Acanthurus* and *Prionurus*) and one or two bony plates on the caudal peduncle (vs. four or five in *Prionurus* and one lancet-like spine in *Acanthurus*). In Korea, three species have been reported from the South Sea so far: *N. unicornis* (Forsskål, 1775) was collected from Tongyoung (Mori, 1952); *N. brevirostris* (Cuvier, 1829) from Jeju Island (Kim and Lee, 1994); and *N. lituratus* (Forster, 1801) from the adjacent waters of Jeju Island, Korea (Lee *et al.*, 2000).

Recently, we collected a single specimen of *N. hexacanthus* (Bleeker, 1855) by a set net in the northern coastal waters of Jeju Island, Korea. The morphological characters of *N. hexacanthus* is described firstly in Korea, and adding to the Korean fish fauna.

Counts and measurements of this specimen follow the methods of Hubbs and Lagler (1964) and Nakabo (2002).

The examined specimen is deposited at the Fish Genetics and Breeding Laboratory, Cheju National University (CNU), Korea.

Naso hexacanthus (Bleeker, 1855)

(New Korean name: Nam-bang-pyo-mun-jwi-chi)
(Fig. 1; Table 1)

Prionodon hexacanthus Bleeker, 1855: 421 (type locality: Ambon Island, Moluccas Islands, Indonesia).

Callicanthus hexacanthus: Chen *et al.*, 1997: 155 (Nansha Island, China).

Naso hexacanthus: Schultz and Woods in Schultz *et al.*, 1953: 643 (Bikini, Marshall); Kishimoto in Masuda *et al.*, 1984: 225 (Japan); Yamakawa in Okamura *et al.*, 1985: 531, 699 (Okinawa and adjacent waters, Japan); Randall in Smith and Heemstra, 1986: 821 (Indo-Pacific; south to Bazaruto, Mozambique); Myers, 1991: 250 (Micronesia); Randall in Randall and Lim, 2000: 642 (listed, South China Sea); Shimada in Nakabo, 2002: 1322 (Ryukyu Islands, Japan).

Material examined. CNU 20070727, one specimen, 351.1 mm in standard length (SL), Gwideok-ri, Jeju-si, Jeju-do, Korea, about 15 m depth, with set net, 27 July 2007.

Description. Dorsal fin rays VI, 29; pectoral fin rays 18; pelvic fin rays I, 3; anal fin rays II, 29; gill rakers 4+10.

Proportion of measurements as a percentage of SL: Body depth 32.3; body width 14.4; head length 22.7; snout length 12.9; orbit diameter 5.1; interorbital width 9.3; upper jaw length 4.0; predorsal length 21.3; preanal

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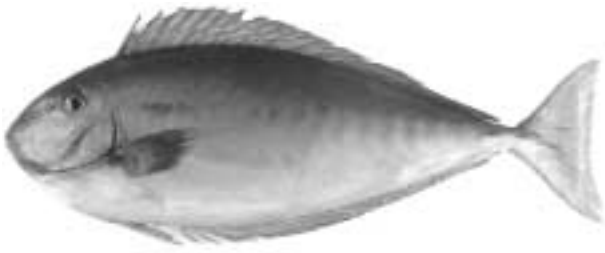


Fig. 1. *Naso hexacanthus* (Bleeker), CNU 20070727, 351.1 mm SL, Gwideok-ri, Jeju-si, Jeju-do, Korea.

Table 1. Comparison of the observed and previously reported morphological characters of *Naso hexacanthus*

Morphological characters	Present study	Kishimoto in Masuda <i>et al.</i> (1984)	Yamakawa in Okamura <i>et al.</i> (1985)
Standard length (mm)	351.1 (n=1)	≤660	137~175 (n=2)
Dorsal fin rays	VI, 29	VI, 25~29 (27~29)	VI~VII, 26~28
Pectoral fin rays	18	17~18 (17)	17~18
Pelvic fin rays	I, 3	I, 3	I, 3
Anal fin rays	II, 29	II, 27~31 (27~29)	II, 29
Gill rakers	14 (4+10)	14 (4+10)	—

length 28.7; prepectoral length 19.9; pectoral fin length 14.8; preanus length 26.3; length of longest dorsal spine 11.0; length of pelvic spine 10.5; length of longest anal spine 6.4; caudal peduncle depth 4.0; caudal peduncle length 12.0.

Body elongated and compressed; dorsal profile of head sloping and smoothly convex; head small; eye small; mouth small and terminal; teeth pointed, strong and finely serrate, in a single series on each jaw; short groove in front of eye; caudal peduncle slender, sub-cylindrical, with sharply keeled two bony plates on mid-side; caudal fin slightly emarginated; skin rough and leathery; dorsal and anal fins continuous and unnotched; origin of dorsal fin on vertical from posterior edge of gill opening; first dorsal fin spine strong, roughened laterally; pectoral fin located anterior to pelvic fin; pelvic fin spine long, reaching origin of anal fin, the length near equaling that of longest first dorsal spine; first bony plate on caudal peduncle larger than the second one.

Color in life. Dark brown to pale bluish gray dorsally and yellowish ventrally; edges of opercle and pre-opercle with dark brown band; brown band on opercle; bony plates of caudal peduncle pale purple; dark brown stripe on dorsal fin; anal fin yellow; caudal fin pale purple with brownish yellow posterior margin.

Color after preservation. Head dark dusky; blackish

brown dorsally and dark gray ventrally on body; bony plates of caudal peduncle dark dusky; dark brown stripe on dorsal fin; anal fin yellowish with a distinct black in posterior margin; caudal fin dark purple with a grayish yellow posteriorly.

Distribution. Red Sea; East Africa to the Hawaiian, Marquesan, and Ducie Islands; south to Lord Howe Island, Micronesia; north to Korea (Jeju Island, present study) including southern Japan (Myers, 1991; Shimada, 2002; Allen *et al.*, 2003).

Remarks. The present specimen, collected from the coastal waters of Jeju Island, Korea, was characterized by having brownish vertical bands on the dorsal fin and two bony plates on caudal peduncle tinted with pale purple. The morphological characters of the specimen matched with the species description given by the previous studies (see Table 1). *Naso hexacanthus* is similar to *N. maculatus* (Randall and Struhsaker, 1981) in morphological characters such as body form and meristic characters. However, the former can be distinguished by having brownish vertical bands on the dorsal fins and no spots on the upper body (vs. many dark spots on the dorsal half of the body and no vertical bands on the dorsal fins for the latter) (Shimada, 2002). The geographical distribution of marine fishes is affected by water temperature (Hannesson, 2007). It has been described that *N. hexacanthus* was originally distributed in Pacific coast of southern Japan and Indo-Pacific (Shimada, 2002). However, the recent occurrence of *N. hexacanthus* from the coastal water areas of Jeju Island in Korea seems to be due to rising seawater temperature near the Korean peninsula (Jeong *et al.*, 2003). We suggest a new Korean fish name, “Nam-bang-pyo-mun-jwi-chi” for *N. hexacanthus*.

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한국산 양귀돔과(농어목) 어류 1미기록종, *Naso hexacanthus*

김맹진 · 김병엽 · 한송현 · 서두옥 · 송춘복

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요 약 : 농어목 양귀돔과(Acanthuridae)에 속하는 *Naso hexacanthus* 1개체 (표준체장 351.1 mm)가 제주 북부 연안에서 정치망으로 처음 채집되었다. 이 종은 등지느러미에 갈색 수직 무늬가 있고 미병부에 있는 두 개의 골질관은 연한 보라색을 띠는 것이 특징이며, 이 종의 한국명을 “남방표문쥐치”라고 하였다.

찾아보기 낱말 : 양귀돔과, 남방표문쥐치, 제주도