

Redescription of the Japanese blacktail triplefin, *Springerichthys bapturnus* (Perciformes: Tripterygiidae), from Korea

Byung-Jik Kim*, Hiromitsu Endo¹ and Young-Don Lee

Marine and Environmental Research Institute, Cheju National University, 3288
Hamdeok-ri, Jocheon-eup, Bukjeju-gun, Jeju-do 695-814, Korea

¹Department of Natural Environmental Science, Faculty of Science, Kochi University,
2-5-1 Akebono-cho, Kochi 780-8520, Japan

The Japanese blacktail triplefin, *Springerichthys bapturnus*, is redescribed based on three specimens (36.6~55.4 mm SL) from Soheuksan and Jeju Islands. This is the first reliable record of the species from Korea. The specimens are characterized by having 26~28 second dorsal spines, 22~26 anal soft rays, 27~30 anterior lateral line scales, and intensive coloration of head and tail.

Key words : Redescription, *Springerichthys bapturnus*, Soheuksan Island, Jeju Island, Tripterygiidae

During a survey of ichthyofauna of Jeju Island, Korea, we found single specimen of the Japanese blacktail triplefin, *Springerichthys bapturnus* (Jordan and Snyder, 1902) from the island, and two additional specimens were subsequently added from Soheuksan Island locating in south-west of the southern sea of Korea. Occurrence of the species from Korea has been reported by several authors previously (Yoo *et al.*, 1995; Lee *et al.*, 2000; Choi *et al.*, 2002; Myoung *et al.*, 2002, 2003), however, it was not only on the basis of underwater photographs or a list of ichthyofauna but also any detailed description of the species was not given. In the present study, we redescribe *S. bapturnus* as the reliable first record from Korea on the basis of the specimens, and also compare its conspecific Japanese specimens.

Counts and measurements follow those of Fricke (1994), and specimens examined were deposited in the Marine and Environment Research Institute, Cheju National University, Korea (MRIC).

*Corresponding author: kimbyungjik@cheju.ac.kr

Genus *Springerichthys* Shen, 1994

(New Korean name: Cheong-hwang-be-do-ra-chi-sok)

Springerichthys Shen, 1994: 26 (type species: *Tripterygion bapturnum* Jordan and Snyder, 1902).

Springerichthys bapturnus (Jordan and Snyder, 1902)

(Korean name: Cheong-hwang-be-do-ra-chi)
(Fig. 1, Table 1)

Tripterygion bapturnum Jordan and Snyder, 1902: 447, fig. 2 (type locality: Misaki, Japan); Yoo *et al.*, 1995: 156, fig. (Jeju Island, Korea); Lee *et al.*, 2000: 117 (list); Myoung *et al.*, 2002: 200 (Jeju Island, southern coast of Korea, Dok Island).

Springerichthys bapturnus: Hayashi, 1993: 948 (southern Japan); Choi *et al.*, 2002: 615 (list); Myoung *et al.*, 2003: 208 (Gageodo, Korea).

Material examined. *Springerichthys bapturnus* ($n = 3$): MRIC 1451, 54.2 mm in standard length (SL), Gwideok-ri, Hanlim-eup, Bukjeju-gun,



Fig. 1. *Springerichthys bapturnus*: MRIC 1451, 54.5 mm SL, Gwideok-ri, Hallim-eup, Bukjeju-gun, Jeju-do, Korea.

Table 1. Comparison of counts and measurements of *Springerichthys bapturnus*

	Korean specimens	Japanese specimens	Fricke (1997) ^a
Standard length (mm)	36.6 ~ 54.2 (<i>n</i> = 3)	29.2 ~ 55.5 (<i>n</i> = 5)	26.0 ~ 60.0 (<i>n</i> = 19)
First dorsal fin rays	III	III	III
Second dorsal fin rays	XVII ~ XVIII	XVI ~ XVIII	XV ~ XIX
Third dorsal fin rays	xii, 1	xi ~ xiii, 1	ix ~ xii, 1
Anal fin rays	II, xxiii ~ xxiv, 1	II, xxii ~ xxvi, 1	II, xx ~ xxvi, 1
Pectoral fin rays	ii ~ iii, 6 ~ 7, vii ~ viii	ii ~ iii, 5 ~ 7, vii	ii ~ iv, 5 ~ 7, vii
Pelvic fin rays	I, ii	I, ii	I, ii
Branched caudal fin rays	9 ~ 10	9	9
Scale rows	42 ~ 45 + 1 ~ 2	42 ~ 43 + 1 ~ 2	43 ~ 48 + 2
Lateral line scales	27 ~ 30 + 16 ~ 17	27 ~ 30	28 ~ 32 + 13 ~ 18
Mandibular pore formula	3 + 1 + 3	3 ~ 4 + 1 + 3	3 ~ 4 + 1 + 3 ~ 4
Head length	27.9 ~ 28.7	23.6 ~ 26.7	21.8 ~ 27.5
Eye diameter	8.1 ~ 9.3	7.9 ~ 9.2	8.6 ~ 10.4
Interorbital distance	2.2 ~ 2.8	2.0 ~ 2.4	1.6 ~ 2.4
Snout length	8.5 ~ 9.2	7.0 ~ 7.9	4.4 ~ 5.6
Upper jaw length	10.9 ~ 11.1	9.3 ~ 10.6	10.1 ~ 10.4
Body depth	18.0 ~ 20.8	16.3 ~ 17.2	15.5 ~ 17.8
Body width	16.9 ~ 20.0	14.0 ~ 15.9	13.2 ~ 15.0
Caudal peduncle length	9.2 ~ 11.3	8.5 ~ 9.9	9.6 ~ 12.8
Caudal peduncle depth	7.7 ~ 8.2	6.6 ~ 7.2	6.7 ~ 7.3
Predorsal (1) length	24.9	20.9 ~ 23.4	19.6 ~ 22.3
Predorsal (2) length	34.2 ~ 36.5	30.8 ~ 34.7	30.1 ~ 35.2
Predorsal (3) length	70.9 ~ 72.0	67.9 ~ 70.5	67.3 ~ 70.4
Preanal fin length	44.8 ~ 47.8	42.7 ~ 47.4	40.3 ~ 46.9
Pectoral fin length	30.1 ~ 33.2	29.4 ~ 33.6	23.8 ~ 29.5
Prepectoral fin length	30.5 ~ 31.2	28.2 ~ 30.3	27.3 ~ 32.3
Prepelvic fin length	21.6 ~ 22.7	19.3 ~ 22.5	17.7 ~ 22.1
Caudal fin length	19.9 ~ 20.4	18.7 ~ 20.9	17.9 ~ 19.4

^a including holotype.

Jeju-do, Korea, 29 February, 2004, coll. by J.H. Kweon and J.H. An MRIC; 1784 ~ 1785, 36.6 ~ 42.6 mm SL, Soheuksan Island, Korea, 3 November, 2004, coll. by S. H. Choi.

Comparative materials. *S. bapturnus* (*n* = 5):

BSKU (Laboratory of Marine Biology, Faculty of Science, Kochi University, Japan) 58042, 54.6 mm SL, rocky shore of central Tosa Bay, Shiranohana, Tosa City, Kochi Pref., 27 May 2002, hand net, coll. by H. Endo; BSKU 65597, 65601,

65602, 43.5~55.5 mm SL, rocky shore of central Tosa Bay, Kaminokae, Nakatosa Town, Kochi Pref., 30 July, 2003, hand net by scuba, 4 m depth, coll. by H. Endo; BSKU 86684, 29.2 mm SL, rocky shore of west of Tosa Bay, Iburi, Tosashimizu City, Kochi Pref., 5 August 1999, hand net, coll. by H. Endo and S. Nagatomo.

Description. Counts and proportional measurements were given in Table 1.

Body elongate, and head slightly depressed with eyes positioned dorso-laterally. Caudal peduncle rather narrow. Mouth terminal, slightly oblique and posteriorly extending to a vertical through anterior part of pupil. Nasal and supraorbital tentacles short and simple. Eye relatively large and interorbital narrow and nearly flat. Body with finely ctenoid scales, except head, pectoral fin base and abdomen. Lateral line incomplete, ending below between third and fourth rays of third dorsal fin. Spinous dorsal in two parts, first dorsal low. Pectoral fin pointed ending 15th spine of second dorsal. Caudal fin round.

Color when fresh. Head dusky with four orange vertical streaks on snout to operculum. Body grayish white with numerous yellowish blotches; abdomen whitish. Dorsal fin base dusky, except third dorsal, with orange bands near base and orange distally. Caudal fin basally dusky and white band, distal about two-thirds black, except white margin. Anal fin white distally with orange blotches and streaks. Pectoral fin base orange, with a basal white band, lower rays yellowish orange. Pelvic fin white.

Distribution. Known from Northwest Pacific: Japan (Hayashi, 1993; Aizawa, 1997) Taiwan (Shen, 1994), and Korea (Yoo *et al.*, 1995; Myoung *et al.*, 2002, 2003; present study).

Remarks. The present specimens were readily identified as a member of the genus *Springerichthys* Shen, 1994 by having discontinuous lateral line (27~30 pored scales+16~17 notched scales), naked belly, III, XVII~XVIII, 12 dorsal fin rays, II, 24~25 anal fin rays, and I, 2 pelvic fin rays. The genus comprises two species, *S. bapturnus* and *S. kulbickii* Fricke and Randall in Fricke, 1994 (Fricke, 1994, 1997). According to Fricke (1997), the former species is characterized by having 16~19 second dorsal fin spines (*vs.* 11~15 for *S. kulbickii*), 21~27 anal fin soft rays (*vs.* 16~21), 28~32 anterior series of lateral line scales (*vs.* 17~22).

The present specimens from Korea agree with

the general description, except for snout length, of the species by Fricke (1994, 1997) and Japanese specimens as well as the original description of *S. bapturnus*. Therefore, we identified the present specimens as *S. bapturnus*. Although *S. bapturnus* from Korea has the longest snout (8.5~9.2% in SL *vs.* 7.0~7.9% for Japanese specimens *vs.* 4.4~5.6% for Fricke, 1997) (Table 1), it seems to be an intraspecific or geographic variations of the species. To clarify these differences, further examination based on sufficient specimens is needed in the future.

Instead of providing a new Korean name for the species in the present study, the name of "cheong-hwang-be-do-ra-chi", suggested previously by Yoo *et al.* (1995) which is the first reference providing the new Korean name of *S. bapturnus* on the basis of a underwater photograph, is adopted to avoid unnecessary confusion of usage of Korean name.

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한국산 청황베도라치 *Springerichthys bapturnus*(농어목, 먹도라치과)의 재기재

김 병 직* · Hiromitsu Endo¹ · 이 영 돈

제주대학교 해양과환경연구소, ¹Faculty of Science, Kochi Univ., Japan

우리 나라 남부연안에서 채집된 3개체 (체장 36.6 ~ 54.2 mm)의 표본에 근거하여 청황베도라치의 외부형태를 재기재하였다. 본 종은 제2등지느러미 극조가 26 ~ 28개, 뒷지느러미 연조가 22 ~ 26개, 전방 측선린수가 27 ~ 30개인 점, 그리고 미부의 흑색띠가 특징적이다.