

First Record of Two Perciform Fishes, *Chelidoperca pleurospilus* (Serranidae) and *Parapercis muronis* (Pinguipedidae) from Korea

Jeong-Ho Park, Jin Koo Kim*, Jung Hwa Choi, Dae Soo Chang¹
and Jong Hwa Park

Fisheries Resources Research Team, National Fisheries Research and Development Institute,
408-1 Sirang-ri, Gijang-gun, Busan 619-902, Korea

¹Fisheries Resources Management and Promotion Team, East Sea Fisheries Research Institute,
30-6 Dongdeok-ri, Yeongok-meon, Gangrung, Gangwon 210-681, Korea

Two specimens (56.3~61.1 mm SL) of the serranid fish, *Chelidoperca pleurospilus* and 21 specimens (34.0~93.6 mm SL) of the pinguipedid fish, *Parapercis muronis* were collected around Jeju Island, southern Korea. *C. pleurospilus* is characterized by having five dark blotches along lateral line, truncated caudal fin, and scaleless interorbital space. *P. muronis* is characterized by having five oblique dark bands on body side, five spines on dorsal fin, and no notch between spinous and soft-rayed portions of dorsal fin. We describe these specimens as the first record from Korea, and propose the new Korean name, "Byeol-gak-si-dom" for the former and "Da-seos-jul-yang-dong-mi-ri" for the latter.

Key words : *Chelidoperca pleurospilus*, *Parapercis muronis*, Serranidae, Pinguipedidae, first record

The genus *Chelidoperca* Boulenger, 1895, belonging to the subfamily Serraninae of the family Serranidae, occurs on sand-muddy bottom of the continental shelf and slope in the western Pacific (Nelson, 2006). Akazaki (1972) reviewed the genus *Chelidoperca*, in which he recognized three species, *C. pleurospilus* (Günther, 1880), *C. hirundinacea* (Valenciennes in Cuvier and Valenciennes, 1831), and *C. margaritifera* Weber, 1913 in Japan, being followed by Senou (2002). However, only one species, *C. hirundinacea*, has been reported from Korea (Chyung, 1977; Kim *et al.*, 2001, 2005) until now.

The genus *Parapercis* Bleeker, 1863 is known to be the largest group of the family Pinguipedidae (Randall and Francis, 1993), and includes

about 54 species in the world (Johnson, 2006), 23 species with 2 unidentified species in Japan (Shimada, 2002) and 6 species in Korea (Youn, 1998; Kim *et al.*, 2005). Because of many taxonomic confusion, the genus has been often reviewed by several authors, e.g., Kamohara (1960), Cantwell (1964), and Shen (1983), but still remains some unresolved taxa (Shimada, 2002).

During a bottom trawl survey in the southern sea of Korea in 2006 and 2007, we collected two specimens of *Chelidoperca pleurospilus* and 21 specimens of *Parapercis muronis* (Tanaka, 1918) (Fig. 1). They are herein described as new to Korean fish fauna based on the specimens.

Measurement methods are followed those of Hubbs and Lagler (1964) and Nakabo (2002). The number of vertebrae and some fin rays were counted from radiographs. The examined specimens

*Corresponding author: taengko@daum.net

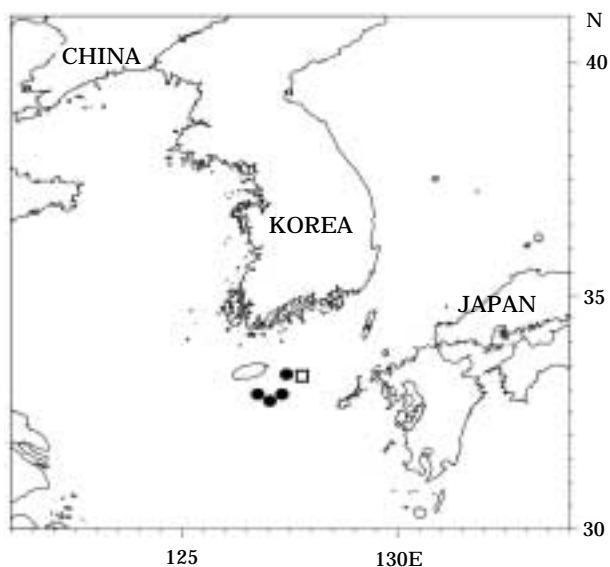


Fig. 1. Map showing the sampling area of *Chelidoperca pleurospilus* (□) and *Parapercis muronis* (●) from southern sea of Korea.

are deposited in the National Fisheries Research and Development Institute (NFRDI) of Korea.

***Chelidoperca pleurospilus* (Günther, 1880)**
(New Korean name: Byeol-gak-si-dom)
 (Fig. 2; Table 1)

Centropristis pleurospilus Günther, 1880: 37, pl. 16-D (type locality: Kai Islands, Indonesia).

Chelidoperca pleurospila: Senou in Okamura and Amaoka, 1997: 277, fig. 1 (Kochi, Japan); Shinohara *et al.*, 2001: 321 (listed, Tosa Bay, Japan); Senou in Nakabo, 2002: 692 (Key, description, Japan); Shinohara *et al.*, 2005: 430 (listed, Ryukyu, Japan).

Chelidoperca pleurospilus: Akazaki, 1972: 277, figs. 1A, 2B, 3 (Tanegashima, Japan); Katayama in Masuda *et al.*, 1984: 133, pl. 120-B (Japan);



Fig. 2. *Chelidoperca pleurospilus* (Günther), NFRDI 20070601-01, 56.3 mm SL, 127°43'E, 33°19'N, around Jeju Island, southern sea of Korea.



Fig. 3. *Parapercis muronis* (Tanaka), NFRDI 20070601-19, 93.6 mm SL, 126°41'E, 32°48'N, around Jeju Island, southern sea of Korea.

Table 1. Comparison of counts and measurements of *Chelidoperca pleurospilus*

	Present study	Günther (1880)	Akazaki (1972)	Yamakawa (1985)
Number of specimens	2	1	7	3
Total length (mm)	70.0~75.5	133	–	–
Standard length (mm)	56.3~61.1	–	64.0~125.5	86~111
Counts				
Dorsal fin rays	X, 10	X, 10	X, 10	X, 10
Pectoral fin rays	15	–	15	15
Anal fin rays	III, 6	III, 7	III, 6	III, 6
Pelvic fin rays	I, 5	–	I, 5	I, 5
Branched caudal fin rays	15	–	–	–
Gill rakers	5~6+11~12	–	4~6+10~11	5+12~13
LL	44	44	42~44	41~43
Vertebrae	10+15	–	–	–
Measurements (% of SL)				
Body depth	22.7~23.1	22.2	19.3~27.0	22.6~23.6
Head length	38.5~39.1	40.0	33.4~46.1	39.0~40.5
Postorbital length	19.3~19.5	–	–	19.7~20.8
Snout length	7.9~8.2	–	6.8~10.6	8.4~10.6
Eye diameter	10.8~11.3	>10.0	8.1~12.7	11.2~12.6
Upper jaw length	15.9~16.3	–	–	16.5~18.1
Interorbital width	2.6~2.8	–	2.1~4.2	2.3~3.5
Predorsal length	34.3~35.6	–	–	36.2~39.0
Prepectoral length	34.2~36.6	–	–	–
Prepelvic length	29.8~31.8	–	–	32.8~35.3
Preanal length	60.0~60.4	–	–	61.4~64.8
Preanus length	56.1~57.8	–	–	–
Pectoral fin length	20.4~20.8	–	17.9~29.2	22.8~25.1
Pelvic fin length	20.7~20.8	–	–	20.8~23.2
Length of 4th dorsal fin spine	13.6~14.9	–	11.6~18.2	–
Length of 1st anal fin ray	13.1~13.5	–	9.8~15.2	–
Caudal fin length	23.4~24.9	–	18.8~28.6	–
Caudal peduncle depth	10.1~11.0	–	–	10.7~11.9

Yamakawa in Okamura, 1985: 468 (Okinawa, Japan); Shen *et al.*, 1993: 296, pl. 76-6 (Taiwan); Wu *et al.*, 1999: 198 (listed, China); Randall and Lim, 2000: 609 (listed, South China Sea).

Material examined. NFRDI 20070601-01~02, 2 specimens, 56.3~61.1 mm in standard length (SL), 127°43'E, 33°19'N, southern sea of Korea, 130 m depth, 3 May 2007, R/V Tamgu-1, bottom trawl, collected by J.H. Park.

Description. Counts and measurements are shown in Table 1.

Body elongated and cylindrical; snout pointed; eyes very large, its diameter longer than snout length, located dorsally; interorbital space flat and very narrow, scaleless; mouth oblique, lower jaw slightly protruding; upper jaw extending

posterior to a little beyond middle of eye; upper region of opercle with two spines; posterior margin of preopercle serrated; dorsal fin base long; pelvic fin insert anterior to pectoral fin; lateral line almost straight; caudal fin truncate; scales relatively large, ctenoid.

Color when fresh. Body overall orange-pink, paler ventrally; five dark blotches along lateral line; dorsal and caudal fins brownish yellow; pectoral, pelvic, and anal fins yellowish; white at origin of pectoral fin; about eight white blotches ventrally.

Color after preservation. Body color paler; five dark blotches more clear; white at origin of pectoral fin; black spots on caudal fin; pectoral and pelvic fins translucent.

Distribution. Western Pacific: Korea (around

Jeju Island, present study), Japan (Akazaki, 1972; Senou, 2002), China (Wu *et al.*, 1999), Taiwan (Shen *et al.*, 1993), and Indonesia (Günther, 1880).

Remarks. *Chelidoperca pleurospilus* has often been confused with *C. hirundinacea* because of the morphological similarities between them (Akazaki, 1972). However, the former differs from the latter in having the five dark blotches along lateral line (vs. indistinct one or none for *C. hirundinacea*), truncated caudal fin (vs. emarginate), and scaleless interorbital space (vs. scaled) (Akazaki, 1972; Senou, 2002). The present specimens agree well with those of several previous descriptions of *C. pleurospilus* (Table 1).

We propose a new Korean name, “Byeol-gak-si-dom” for this species.

***Parapercis muronis* (Tanaka, 1918)**

(New Korean name:

Da-seos-jul-yang-dong-mi-ri)

(Fig. 3; Table 2)

Neopercis muronis Tanaka, 1918: 227 (type locality: Wakayama, Japan).

Parapercis muronis: Kamohara, 1960: 9 (Kochi, Japan); Cantwell, 1964: 254, figs. 1S, 4S, 6A (Kochi, Japan and China Sea); Shen, 1983: 30, fig. 8 (Taiwan); Okamura in Masuda *et al.*, 1984: 446, fig. 375-M (Japan); Shen *et al.*, 1993: 488, pl. 164-4 (Taiwan); Shinohara in Okamura and Amaoka, 1997: 553, fig. 4 (Kochi, Japan); Wu *et al.*, 1999: 680 (listed, China); Randall and Lim, 2000: 631 (listed, South China Sea);

Table 2. Comparison of counts and measurements of *Parapercis muronis*. Data in parentheses are the mean

	Present study	Tanaka (1918)	Shen (1960)	Kamohara (1983)
Number of specimens	21	–	3	10
Total length (mm)	41.4 ~ 112.3	–	–	–
Standard length (mm)	34.0 ~ 93.6	–	62 ~ 121	91.2 ~ 112.9
Counts				
Dorsal fin rays	V, 23 ~ 24	V, 23	V, 23	V, 23
Pectoral fin rays	18 ~ 19	19 ~ 20	20	–
Anal fin rays	I, 18 ~ 20	20	–	I, 19
Pelvic fin rays	I, 5	I, 5	–	–
Branched caudal fin rays	14 ~ 15	14	–	–
Gill rakers	5+7 ~ 9	–	4 ~ 6+8	–
Vertebrae	32 ~ 34	–	–	–
Measurements (% of SL)				
Body depth	20.4 ~ 22.2 (21.4)	18.8	19.6 ~ 20.0	18.3 ~ 22.2
Body width	16.3 ~ 20.6 (18.7)	–	–	–
Head length	26.5 ~ 29.3 (27.9)	25.6	26.3 ~ 27.8	25.1 ~ 27.9
Postorbital length	10.5 ~ 13.1 (12.0)	–	–	–
Snout length	6.8 ~ 7.8 (7.3)	7.0	5.6 ~ 7.5	4.3 ~ 6.8
Eye diameter	8.4 ~ 10.5 (9.7)	8.8	8.8 ~ 9.9	9.3 ~ 11.8
Upper jaw length	10.3 ~ 11.5 (11.0)	11.0	–	–
Suborbital width	2.2 ~ 3.0 (2.6)	–	–	–
Interorbital width	1.6 ~ 2.4 (2.0)	2.9	1.9 ~ 3.1	–
Predorsal length	28.8 ~ 31.3 (29.8)	–	–	–
Prepectoral length	27.1 ~ 30.2 (28.6)	–	–	–
Prepelvic length	23.4 ~ 25.5 (24.6)	–	–	–
Preanal length	46.3 ~ 49.7 (48.3)	–	–	–
Preanus length	43.0 ~ 46.1 (44.7)	–	–	–
Pectoral fin length	17.6 ~ 18.8 (18.3)	–	–	–
Length of longest dorsal fin ray	13.4 ~ 15.7 (14.4)	–	–	–
Dorsal fin base length	61.2 ~ 64.8 (62.9)	–	–	–
Length of longest anal fin ray	10.1 ~ 12.6 (11.3)	–	–	–
Anal fin base length	44.3 ~ 47.6 (45.7)	–	–	–
Caudal peduncle depth	8.9 ~ 9.9 (9.5)	9.4	9.4 ~ 10.3	–

Randall in Carpenter and Niem, 2001: 3502 (Western Central Pacific); Shinohara *et al.*, 2001: 329 (listed, Tosa Bay, Japan); Shimada in Nakabo, 2002: 1064 (Key, description, Japan); Shinohara *et al.*, 2005: 437 (listed, Ryukyu, Japan).

Material examined. NFRDI 20061121-10, 1 specimen, 93.3 mm SL, 126°44'E, 32°45'N, southern sea of Korea, 118 m depth, 27 October 2006, R/V Tamgu-1, bottom trawl; NFRDI 20070123-10~15, 6 specimens, 34.0~90.4 mm SL, 127°10'E, 32°47'N, southern sea of Korea, 118 m depth, 27 October 2006, R/V Tamgu-1, bottom trawl; NFRDI 20070123-16, 1 specimen, 77.9 mm SL, 127°42'E, 33°22'N, southern sea of Korea, 117 m depth, 26 October 2006, R/V Tamgu-1, bottom trawl; NFRDI 20070601-19~31, 13 specimens, 52.1~93.6 mm SL, 126°41'E, 32°48'N, southern sea of Korea, 116 m depth, 30 April 2007, R/V Tamgu-1, bottom trawl, collected by J.H. Park.

Description. Counts and measurements are shown in Table 2.

Body elongate, cylindrical anteriorly and compressed posteriorly; eyes very large, located dorsally; mouth oblique, upper and lower jaws protruding equally; upper jaw reach anterior to middle of eye; length of rays longer than that of spines on dorsal fin; dorsal and anal fins base long; pelvic fin insert anterior to pectoral fin; lateral line curved slightly upward near pectoral fin and pass straight through middle of posterior body; no notch between spinous and soft-rayed portions of dorsal fin; caudal fin rounded; scales ctenoid.

Color when fresh. Body yellowish pink, paler ventrally; five slightly oblique black bands on each side extending from dorsal to below the lateral line, with lower part of each band yellow; 1~2 dark blotches among bands dorsally; dorsal and anal fins white, with yellowish oblique bands; white at origin of pectoral fin; a black blotch at the upper base of caudal fin; 4~5 yellow vertical bands in caudal fin; bluish blotch on middle of pelvic fin.

Color after preservation. Body color paler; five dark bands, with upper part of each band black and the lower part of each band bleaching; white at origin of pectoral fin; black blotch on middle of pelvic fin.

Distribution. Northwest Pacific: Korea (around Jeju Island, present study), Japan (Shimada, 2002), Taiwan (Shen *et al.*, 1993), and China (Wu *et al.*, 1999).

Remarks. Within the genus *Parapercis*, *P. muronis* is characterized by having five dark transverse bands, five spines on dorsal fin, and no notch between spinous and soft-rayed portions of dorsal fin. The present specimens agree well with those of several previous descriptions of *P. muronis* (Table 2).

P. muronis is easily different from *P. multifasciata* Döderlein in Steindachner and Döderlein, 1884, in having five (vs. 8~10 for *P. multifasciata*) dark bands (Shimada, 2002; Kim *et al.*, 2005).

We propose a new Korean name, "Da-seos-julyang-dong-mi-ri" for this species.

Acknowledgements

This work was funded by the National Fisheries Research and Development Institute (NFRDI) of Korea. We express our thanks to the captain and crews of R/V Tamgu-1.

References

- Akazaki, M. 1972. A critical study of the serranid fishes of the genus *Chelidoperca* found in Japan. *Jpn. J. Ichthyol.*, 19 : 274~282. (in Japanese)
- Bleeker, P. 1863. Onzième notice sur la faune ichthyologique de l'île de Ternate. *Neder. Tijdschr. Dierk.*, 1 : 228~238.
- Boulenger, G.A. 1895. Catalogue of the perciform fishes in the British Museum, 1 : 1~394, pls. 1~15.
- Cantwell, G.E. 1964. A revision of the genus *Parapercis*, Family Mugiloididae. *Pac. Sci.*, 18 : 239~280.
- Chyung, M.K. 1977. The fishes of Korea. Ilji-sa, Seoul, pp. 1~727. (in Korean)
- Cuvier, G. and A. Valenciennes. 1831. Histoire naturelle des poissons. Tome septieme. Livre septieme. Des Squ-

- amipennes. Livre huitieme. Des poissons a pharyngiens labyrinthiformes, 7 : 1~531, pls. 170~208.
- Günther, A. 1880. Report on the shore fishes procured during the voyage of H.M.S. Challenger in the years 1873~1876. *In*: Report of the scientific results of the voyage of H.M.S. Challenger during the years 1873~1876. Zool., 6 : 1~82, pls. 1~32.
- Hubbs, C.L. and K.F. Lagler. 1964. Fishes of the Great Lake Region. Bull. Cranbrook Inst. Sci., 26 : 19~27.
- Johnson, J.W. 2006. Two new species of *Parapercis* (Perciformes: Pinguipedidae) from north-eastern Australia, and rediscovery of *Parapercis colemani* Randall & Francis, 1993. Mem. Mus. Victoria, 63 : 47~56.
- Kamohara, T. 1960. A review of the fishes of the family Parapercidae found in the waters of Japan. Rep. Usa Mar. Biol. Sta., 7 : 1~14, pls. 1~2.
- Katayama, M. 1984. Family Serranidae. *In*: Masuda, H., K. Amaoka, C. Araga, T. Uyeno and T. Yoshino (eds.), The fishes of the Japanese archipelago, English text. Tokai Univ. Press, Tokyo, pp. 126~138.
- Kim, I.S., Y. Choi, C.L. Lee, Y.J. Lee, B.J. Kim and J.H. Kim. 2005. Illustrated book of Korean Fishes. Kyohak Publishing, Seoul, pp. 1~615. (in Korean)
- Kim, Y.U., J.G. Myoung, Y.S. Kim, K.H. Han, C.B. Kang, J.K. Kim and J.H. Ryu. 2001. Marine fishes of Korea. Hanguel Publishing, Busan, pp. 1~382. (in Korean)
- Nakabo, T. 2002. Introduction of Ichthyology. *In*: Nakabo, T (ed.), Fishes of Japan with pictorial keys to the species, English ed. Tokai Univ. Press, Tokyo, pp. xxi~xlii.
- Nelson, J.S. 2006. Fishes of the world, 4th ed. John Wiley & Sons, New York, pp. 1~601.
- Okamura, O. 1984. Family Mugiloididae. *In*: Masuda, H., K. Amaoka, C. Araga, T. Uyeno and T. Yoshino (eds.), The fishes of the Japanese archipelago, English text. Tokai Univ. Press, Tokyo, pp. 290~292, 446.
- Randall, J.E. 2001. Family Pinguipedidae. *In*: Carpenter, K.E. and V. Niem (eds.), FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific vol. 6. FAO, Rome, pp. 3501~3510.
- Randall, J.E. and K.K.P. Lim. 2000. A checklist of the fishes of the South China Sea. Raffles Bull. Zool., Suppl. 8 : 569~667.
- Randall, J.E. and M.P. Francis. 1993. *Parapercis colemani*, a new Pinguipedidae fish from Norfolk Island, south-western Pacific Ocean. N. Z. J. Mar. Freshw. Res., 27 : 209~214.
- Senou, H. 1997. Family Serranidae. *In*: Okamura, O. and K. Amaoka (eds.), Sea fishes of Japan. Yama-kei Publishers, Tokyo, pp. 251~279. (in Japanese)
- Senou, H. 2002. Family Serranidae. *In*: Nakabo, T. (ed.), Fishes of Japan with pictorial keys to the species, English ed. Tokai Univ. Press, Tokyo, pp. 690~731.
- Shen, S.C. 1983. Study on sand perch (Mugiloididae) from Taiwan. J. Taiwan Mus., 36 : 23~36.
- Shen, S.C., K.T. Shao, C.T. Chen, C.H. Chen, S.C. Lee and H.K. Mok. 1993. Fishes of Taiwan. Depart. Zool., Natl. Taiwan Univ., Taipei, pp. 1~960. (in Chinese)
- Shimada, K. 2002. Family Pinguipedidae. *In*: Nakabo, T. (ed.), Fishes of Japan with pictorial keys to the species, English ed. Tokai Univ. Press, Tokyo, pp. 1059~1064.
- Shinohara, G., H. Endo, K. Matsuura, Y. Machida and H. Honda. 2001. Annotated checklist of the deepwater fishes from Tosa Bay, Japan. Natl. Sci. Mus. Monogr., 20 : 283~343.
- Shinohara, G., T. Sato, Y. Aonuma, H. Horikawa, K. Matsuura, T. Nakabo and K. Sato. 2005. Annotated checklist of the waters around the Ryukyu Islands, Japan. Natl. Sci. Mus. Monogr., 29 : 385~452.
- Shinohara, N. 1997. Family Mugiloididae. *In*: Okamura, O. and K. Amaoka (eds.), Sea fishes of Japan. Yama-kei Publishers, Tokyo, pp. 549~553. (in Japanese)
- Steindachner, F. and L. Döderlein. 1884. Beiträge zur Kenntniss der Fische Japan's. (III). Denkschr. Akad. Wiss. Wien, 49 : 171~212, pls. 1~7.
- Tanaka, S. 1918. Twelve new species of Japanese fishes. Zool. Mag., 30 : 223~227. (in Japanese)
- Weber, M. 1913. Die Fische der Siboga-Expedition. E. J. Brill, Leiden. Fische Siboga Exped., pp. 1~710, pls. 1~12.
- Wu, H.L., K.T. Shao and C.F. Lai. 1999. Latin-Chinese dictionary of fishes names. Sueichan Press, Keelung, pp. 1~1028.
- Yamakawa, T. 1985. Family Serranidae. *In*: Okamura, K. (ed.), Fishes of the Okinawa trough and the adjacent waters. II. Japan Fisheries Resource Conservation Association, Tokyo, pp. 462~475.
- Youn, C.H. 1998. New record of three percoids (Pisces: Perciformes) from Cheju Island, Korea. Korean J. Ichthyol., 10 : 260~267.

Received : June 28, 2007

Accepted : August 28, 2007

한국산 농어목 어류 2 미기록종, *Chelidoperca pleurospilus*
및 *Parapercis muronis*

박정호 · 김진구* · 최정화 · 장대수¹ · 박종화

국립수산과학원 자원연구팀

¹국립수산과학원 동해수산연구소 어업자원팀

농어목 바리과에 속하는 *Chelidoperca pleurospilus* 2개체 (체장 56.3~61.1 mm)와 양동미리과에 속하는 *Parapercis muronis* 21개체 (체장 34.0~93.6 mm)가 제주도 주변해역에서 채집되었다. *C. pleurospilus*는 체측에 5개의 검은 반점이 있고 꼬리지느러미 후단부가 절단형이며, 양눈사이에 비늘이 없는 것이 특징이다. *P. muronis*는 체측에 5줄의 검은 띠가 비스듬히 있고 등지느러미 극조가 5개이며, 등지느러미의 극조부와 연조부 사이에 결각이 없는 것이 특징이다. 두 종에 대해 각각 “별각시돔”과 “다섯줄양동미리”라고 신한국명을 부여하였다.