

# New Record of the Black-Velvet Angelfish, *Chaetodontoplus melanosoma* (Pomacanthidae, Perciformes) from Korea

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**ABSTRACT** This is the first report of *Chaetodontoplus melanosoma*, belonging to the family Pomacanthidae, collected in Korea. The specimen (123.1 mm in standard length) was caught in the coastal waters of Jeju Island by a trammel net on 23 February 2010. This species was characterized by the following morphological traits: 26 dorsal fin rays, 16 pectoral fin rays, 6 pelvic fin, 21 anal fin rays, no blue stripes on the body, no markings behind the eye, and an egg-shaped faint black spot on the base of the pectoral fin. We suggest a new Korean name “Geom-eun-cheong-jul-dom” for *C. melanosoma*.

**Key words:** First record, *Chaetodontoplus melanosoma*, Pomacanthidae, Jeju Island, Korea

## INTRODUCTION

The pomacanthid fishes (family Pomacanthidae), which comprise 8 genera with about 82 species, are distributed in tropical waters of the Atlantic, Indian, and Pacific (Nelson, 2006). These fishes generally occur near coral reefs and at depth of less than 20 m, but a few species below 50 m (Nelson, 2006). Morphological characters of this family include the body strongly compressed, the dorsal fin continuous with 9~15 spines and 15~37 soft rays, a strong spine at the angle of the preopercle, a well-developed pelvic axillary process, larval stage lacking bony plates on head region, caudal fin margin rounded to lunate, and bright color patterns in most species (Nelson, 2006). The most of these species have a beautiful body color, they are recognized to be industrially important as ornamental fishes. Thirty pomacanthid species in seven genera have been reported in Japan (Shimada, 2002), whereas two species, *Chaetodontoplus septentrionalis* and *Pomacanthus imperator*, in Korea up to the date (Kim *et al.*, 2011). However, as *P. imperator* was identified only based on an underwater photo (Yoo *et al.*, 1995), the

morphological characterization is needed to be examined with the real specimen in order to add it to the Korean fish fauna.

Within the family Pomacanthidae, the genus *Chaetodontoplus* consists of 15 species worldwide (Eschmeyer, 2014; Froese and Pauly, 2014). Among them, five species are distributed in Japan (Shimada, 2002) and one species in Korea (Kim *et al.*, 2005). This genus is characterized by having a smaller anterior nostril than the posterior one and incomplete lateral line terminating at the end of soft dorsal fin base (Shen and Lim, 1975).

One specimen of *Chaetodontoplus melanosoma* (Bleeker, 1853) was caught by a trammel net on February 23, 2010. Here, we describe the morphological characters of *C. melanosoma* as an addition to the list of Korean fishes.

## MATERIALS AND METHODS

Counts and measurements are followed by the methods of Hubbs and Lagler (1964). The examined specimen is deposited at the Fish Genetics and Breeding Laboratory, Jeju National University (JNU), Korea.

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***Chaetodontoplus melanosoma* (Bleeker, 1853)**

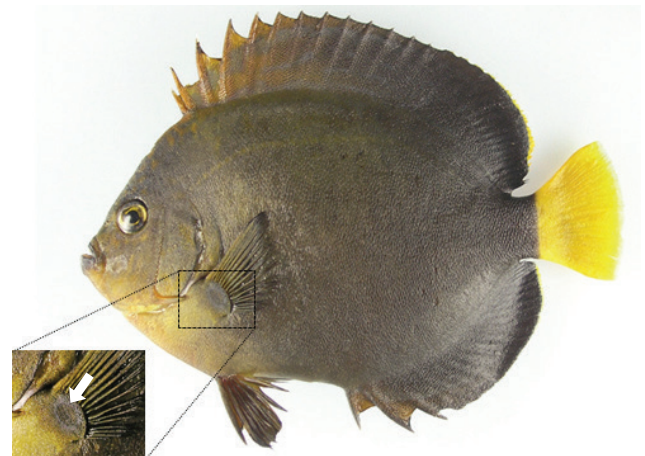
(Korean name: Geom-eun-cheong-jul-dom)

(Fig. 1; Table 1)

*Holacanthus melanosoma* Bleeker, 1853: 78 (type locality: Lawajong, Solor Island, Indonesia).*Chaetodontoplus melanosoma*: Shen and Lim, 1975: 100 (Taiwan); Araga in Masuda *et al.*, 1984: 1984 (Japan); Randall and Lim, 2000: 624 (listed, South China Sea); Shimada, 2002: 901 (Japan); Allen and Adrim, 2003: 42 (Indonesia).**Material examined.** JNU-1309, one specimen, 123.1 mm in standard length (SL), 33°12.33'N, 126°18.41'E, Sogyoi-ri, Seogwipo-si, Jeju, Korea, trammel net, about 20 m in depth, 23 Feb. 2010.**Description.** Counts and measurements of the morphological traits of the specimen are shown in Table 1. Measurements as a percentage of SL are as follows: body depth, 57.4; head length, 28.6; snout length, 8.8; orbit diameter, 7.0; interorbital width, 9.7; upper jaw length, 4.9; predorsal fin length, 27.0; prepectoral fin length, 28.0; preanal length, 58.8; pectoral fin length, 20.6; pelvic fin length, 26.1; depth of caudal peduncle, 11.5.

Body ovate, very compressed and covered with ctenoid scales; dorsal profile evenly and gently curving down from origin of dorsal fin to tip of snout; eye diameter moderate and it is similar to snout length; interorbital space slightly convex; two nostrils close together in front

of eye, posterior nostril larger than anterior; mouth small and terminal; no spine on preorbital part; preopercle with small spines on upper limb, and a prominent large spine at angle; length of dorsal spines increasing from first to fourth spines; posterior margin of soft dorsal and anal fins rounded; pelvic spine not extends to origin of anal fins, but reaches anus; lateral line terminates at the end of dorsal fin base; caudal fin rounded.

**Color when fresh.** Color on body dark brown; ventral part of head light yellow with mottles; dorsal spines part yellow and its soft part black; posterior margins of dorsal**Fig. 1.** *Chaetodontoplus melanosoma*, JNU-1309, 123.1 mm SL, Jeju Island, Korea.**Table 1.** Comparison of the meristic characters of *C. melanosoma*

Meristic characters	Present study	Bleeker (1853)	Shen and Lim (1975)	Shimada (2002)
Number of specimens	1	1	2	—
Total length (mm)	142.8	—	—	—
Standard length (mm)	123.1	120	72, 122	—
In % of standard length				
Head length	28.6	—	28.6~29.4	—
Body depth	57.4	—	55.3~56.7	—
Predorsal fin length	24.8	—	16.9~21.8	—
Prepectoral fin length	28.6	—	—	—
Preanal fin length	58.8	—	54.7~57.9	—
Base of dorsal fin length	70.6	—	70.0~73.6	—
Base of anal fin length	36.1	—	35.4~35.6	—
Pectoral fin length	20.6	—	19.3~21.3	—
In % of head length				
Snout length	30.7	—	25.3~27.3	—
Eye diameter	24.4	—	26.4~27.1	—
Upper jaw	17.0	—	—	—
Interorbital width	34.1	—	31.8~32.9	—
Counts				
Dorsal fin rays	XIII, 18	XIII, 19	XIII, 17	XIII, 17~18
Pectoral fin rays	16	II, 15	17	—
Pelvic fin rays	I, 5	I, 5	I, 5	—
Anal fin rays	III, 18	III, 18	III, 17	III, 18
Gill rakers	4 + 12	—	—	—

and anal soft fins light yellow; three blue strips on dorsal fins; pectoral, pelvic and anal fins dark brown with yellow mottles; caudal fins yellow; a spot at base of pectoral fins.

**Color after preservation.** Head, body and all fins without caudal fin dark brown; caudal fin pale brown; no blue stripes on dorsal fin.

**Distribution.** Indonesia, Philippines, New Guinea eastward to the Japan, and Korea (present study) (Allen *et al.*, 1998).

**Remarks.** The present specimen, collected from the coastal waters of Jeju Island, Korea, is characterized by having no blue strips on body, no markings behind eye, and a black spot on base of pectoral fin. When these characteristics were compared with the previous reports on *C. melanosoma* (Bleeker, 1853; Shen and Lim, 1975; Shimada, 2002), all morphological traits were well matched with those reported by Shimada (2002), however, some traits such as the number of dorsal and pectoral fin rays were not exactly matched with those reported by Bleeker (1853), and Shen and Lim (1975) as well (see Table 1). Thus, it would be necessary to examine whether such discrepancies were due to miscounting morphological traits or geographic variation in the future. Masuda (1984) reported that there were some individuals having color variations in *C. melanosoma*. We also found that the thoracic region of the specimen revealed yellowish-brown instead of a dark coloration reported by Shimada (2002). However, we identified our specimen to be *C. melanosoma* after considering all kinds of the morphological characters we examined.

In Korea, only one species of *Chaetodontoplus*, *C. septentrionalis* (Temminck and Schlegel, 1844), has been reported so far. This species is easily distinguishable from *C. melanosoma* by having longitudinal blue strips on body sides (vs. none in *C. melanosoma*) (Shimada, 2002). Since the specimen of *C. melanosoma* we examined has darker body coloration with melanin pigment than *C. septentrionalis*, and also has faint traces of blue strips on the dorsal fin, we suggest the new Korean name “Geom-eun-cheong-jul-dom” for *C. melanosoma*.

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## REFERENCES

- Allen, G.R., R. Steene and M. Allen. 1998. A guide to angelfishes and butterflyfishes. Odyssey publishing, Tropical Reef Research, 250p.
- Allen, G.R. and M. Adrim 2003. Coral reef fishes of Indonesia. Zoological Studies, 42: 1-72.
- Bleeker, P. 1853. Bijdrage tot de kennis der ichthyologische fauna van Solor. Natuurkundig Tijdschrift voor Nederlandsch Indië, 5: 67-96.
- Bleeker, P. 1876. Systema percuarum revisum. Pars II. Archives néerlandaises des sciences exactes et naturelles, 11: 289-340.
- Eschmeyer, W.N. (ed). 2014. Catalog of fishes: genera, species, references. Electronic version accessed 10 Dec 2014.
- Froese, R. and D. Pauly. (Editors) 2014. FishBase. World Wide Web electronic publication. www.fishbase.org, version (11/2014).
- Hubbs, C.L. and K.F. Lagler. 1964. Fishes of the Great Lakes region. Bull. Granbrook Inst. Sci., 26: 19-27.
- Kim, B.J., S.G. Lee and J.H. An. 2011. Fish species of Korea. In: National list of species of Korea (vertebrates), National Institute of Biological Resources, 2011: 3-189. (in Korean)
- Kim, I.S., Y. Choi, C.L. Lee, Y.J. Lee, B.J. Kim and J.H. Kim. 2005. Illustrated book of Korean fishes. Kyo-Hak Publishing, Seoul, 615p. (in Korean)
- Masuda, H., K. Amaoka, C. Araga, T. Uyeno and T. Yoshino. 1984. The fishes of the Japanese Archipelago. Tokyo (Tokai University Press). Text: i-xxii + 1-437, Atlas: pls. 1-370.
- Nelson, J.S. 2006. Fishes of the world, 4th ed. John Wiley and Sons, New York, 601p.
- 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.
- Shen, S.C. and P.C. Lim. 1975. An additional study on chaetodont fishes (Chaetodontidae) with description of two new species. Bull. Inst. Zool., Academia Sinica, 14: 79-105.
- Shimada, K. 2002. Pomacanthidae. In: Nakabo, T. (ed.), Fishes of Japan with pictorial keys to the species, English edition. Tokai Univ. Press, Tokyo, pp. 898-907.
- Temminck, C.J. and H. Schlegel. 1843. Pisces. In: Fauna Japonica, sive descriptio animalium quae in itinere per Japoniam suscepto annis 1823-30 collegit, notis observationibus et adumbrationibus illustravit P. F. de Siebold. Part 1: 1-20.
- Yoo, J.M., S. Kim, E.K. Lee, W.S. Kim, C.S. Myoung and S.M. Lee. 1995. Marine fishes around Cheju Island. Hyunamsa, Seoul, 248p. (in Korean)

## 한국 제주도에서 채집된 청줄돔과 어류 1미기록종, *Chaetodontoplus melanosoma*

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**요 약 :** 농어목 청줄돔과에 속하는 *Chaetodontoplus melanosoma* 1개체(표준 체장 123.1 mm)가 2010년 2월 24일 제주도 사계연안의 삼중자망에서 처음으로 채집되었다. 이 종은 체측에 파란색 줄무늬가 없는 대신 멜라닌 색소가 잘 발달되어 있는 점, 눈 뒤에 반점이 없는 점, 그리고 가슴지느러미 기부에 검은색 반점을 가지는 점이 특징이다. 하지만, 청줄돔이 가지는 체측의 파란줄무늬가 이 종의 등지느러미에 희미하게 남아있으며 형태적으로도 유사하기 때문에 이 미기록종의 국명을 “검은청줄돔”으로 제안한다.

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**찾아보기 낱말:** 미기록종, 청줄돔과, 검은청줄돔, 제주도