

## Juvenile Color Pattern of a Serranid Fish, *Cephalopholis igarashiensis*, from Japan

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The serranid *Cephalopholis igarashiensis* Katayama is confined, so far as records show, to southern seas of Japan. Although there is rather ample morphological information on this species, we know little about its juvenile characters, particularly coloration.

Recently, we obtained a juvenile specimen of *C. igarashiensis*, which allowed us to present some new and detailed information on the juvenile coloration as well as to extend the geographic range of the species. The specimen, 46.4 mm in standard length, was caught by Mr. Hajime Masuda, by means of dip-net, on the rock-bottom at a depth of 30 m, at Futo (34°55'N, 139°08'E), Shizuoka Pref., Japan, on Oct. 31, 1976.

This specimen has been deposited in the Museum, Tokyo University of Fisheries (catalogue No. MTUF 22398).

*Cephalopholis igarashiensis* Katayama

(Japanese name: Shimahata)

Fig. 1

*Cephalopholis igarashiensis* Katayama, 1957: 156, fig. 3.

*Cephalopholis igarashiensis*: Katayama, 1960: 55, pl. 36; Shibata, 1964: 18; Katayama, 1973: 201, fig. 3; Masuda et al., 1975: 212, fig. E in p. 45.

*Cephalopholis swanius* Tsai, 1960: 188, fig. 1.

### Description

D. IX, 13; A. III, 9; P<sub>1</sub>. 18; P<sub>2</sub>. I, 5; branched caudal rays 8+7, vertebrae 8+15 (urostyler vertebra is counted as one). Pored scales in lateral line to caudal base 59; other scale counts were not able to take.

Total length 57.3 mm, standard length 46.4 mm. Measurements expressed in hundredths of standard length: depth of body through base of first dorsal spine 45.9; head length 42.9; snout length 10.8; horizontal

diameter of eye 9.48; interorbital width 7.76; least depth of caudal peduncle 14.4; snout to dorsal origin 43.5, to dorsal end 88.8, to anal origin 69.4, to anal end 86.2, to pectoral insertion 38.1, to pelvic insertion 39.7; dorsal base 55.4; anal base 20.5; longest (third) dorsal spine 15.9; longest (third) anal spine 12.9; length of pectoral fin 28.4; length of pelvic fin 27.4; length of pelvic spine 17.2.

Body high, strongly compressed. Lateral line uninterrupted, greatly recurved. Dorsal contour concave above eyes. Mouth large; maxillary extending below posterior margin of eye. Preopercle with a spine at posterior end of lower margin. Opercle with three spines at posterior angle; middle spine closer to the lower than the upper. Dorsal fin without incision on distal margin between spinous and soft portions. Pectoral fins ellipse, its distal tip reaching below ninth dorsal spine. Pelvic fins long, extending to vent. Anal fin produced, its posterior margin rounded. Caudal fin rounded. Scales small, ctenoid, densely imbricated on body. Posterior part of head from occiput through behind eye to opercle, subopercle and interopercle scaled. Interorbital space, preopercle and snout scaleless.

**Color when alive.** Body blackish yellow, with eight cross bands; anterior four indistinct, pale yellow, and posterior four distinct, white. First band under middle of eye, the second a saddle, midway from eye to origin of dorsal, the third under origin of dorsal, the fourth under between the fourth and the fifth dorsal spines, the fifth under between the sixth and the eighth dorsal spines, the sixth under the third soft dorsal ray, the seventh on middle of caudal peduncle, and the eighth on caudal fin base (Fig. 2). Interspace between the fifth and sixth bands lighter than others. A small black spot on upper surface of caudal peduncle immediately behind dorsal base.

Dorsal fin yellow; tip of spiny dorsal black; a large, white-margined black blotch as large as orbit on the first to sixth soft dorsal rays, extending ventrally on upper side of body; posterior part of soft dorsal yellow, transparent. Pectoral fins white.

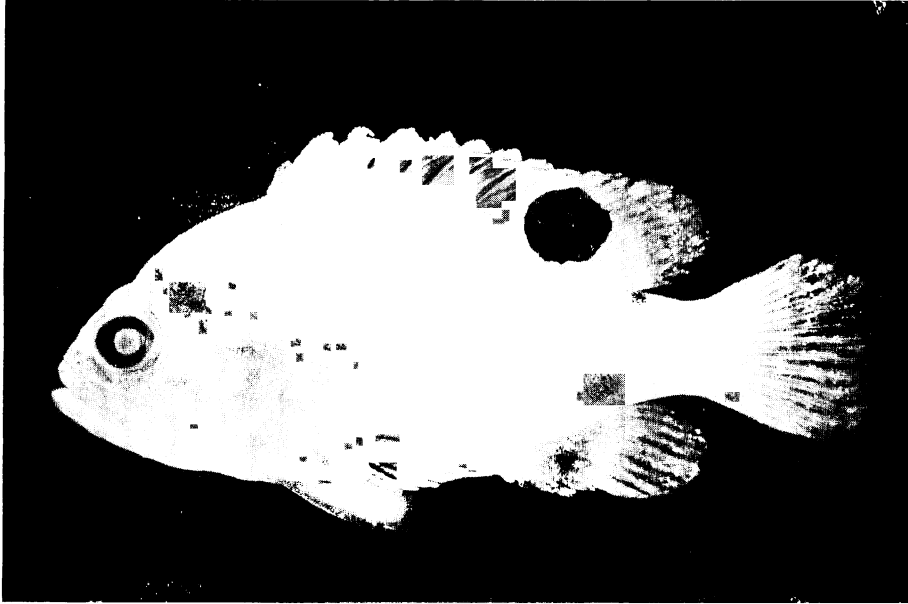


Fig. 1. *Cephalopholis igarashiensis* Katayama. 46.4 mm in standard length, from Futo, Shizuoka Pref., Japan.

Pelvic fins wholly black. Anal fin yellow, its anterior part blackish, posterior part transparent. Caudal fin yellow, transparent.

**Notes.** The juvenile color pattern of *C. igarashiensis* has been referred to by Katayama (1973), based on a specimen of 137 mm in standard length. He mentioned that a large black blotch is present on the soft dorsal fin and the margin of the pelvics is black in the specimen. Masuda et al. (1975) described only the presence of a large black blotch on the soft dorsal fin without giving size of specimen. Our 46.4 mm specimen has pelvic fins which are wholly black and a small black spot behind the dorsal fin, in addition to the black blotch on the soft dorsal. The white or pale yellow cross bands on the body found in our specimen correspond in position to the reddish bands in adult.

Tsai (1960) described as new *C. swanius* from a single specimen of 176 mm in total length taken at Hua-lien, east coast of Taiwan. However, Tsai's description of *C. swanius* does not show significant characters separating it from *C. igarashiensis*, nor does he compare it with *C. igarashiensis*. Our juvenile specimen agrees with Tsai's *C. swanius* as well as with young *C. igarashi-*

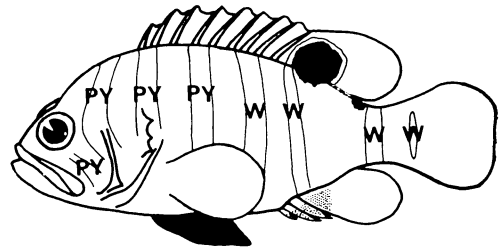


Fig. 2. Delineation to show the cross bands on the side of body. PY, Pale yellow band; W, white band.

*ensis* described by Katayama (1973) in coloration as to the number and position of the cross bands and the presence of the blotch on the soft dorsal. We, therefore, consider *C. swanius* to be a junior synonym of *C. igarashiensis*.

*C. igarashiensis* has been recorded from Sumisu Island of the Izu archipelago (Katayama, 1957, 1960; Kamohara, 1965), Izu Islands (Katayama, 1973; Masuda et al., 1975), Amami Oshima (Shibata, 1964; Kamohara, 1965; Katayama, 1973), Ryukyu Islands (Katayama, 1957, 1960, 1973; Kamohara, 1965; Masuda et al., 1975; Yoshino et al., 1975), and eastern Taiwan (Tsai, 1960, as *C. swanius*). The present record extends

the range of the fish northward to Shizuoka Pref., which is located on the Pacific coast of middle Honshu, Japan.

#### Acknowledgments

We thank Mr. Hajime Masuda who presented the specimen of and information on the present species. Dr. Yoshiaki Tominaga of the University of Tokyo assisted us in obtaining literature. Dr. Masao Katayama, former professor of Yamaguchi University and Dr. Yasuhiko Taki of the Institute for Breeding Research, Tokyo University of Agriculture critically read the manuscript. Mr. Akira Zama of the Tokyo University of Fisheries offered us valuable suggestion.

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#### シマハタ幼魚の体色斑紋について

安田富士郎・勝又康樹・今井千文

静岡県富戸より得られた標準体長 46.4 mm の幼魚について体色斑紋を報告した。従来の報告の体長 137 mm のものには記録されていなかった腹鰭が黒色であること、背鰭基底後端付近に小黑斑があること、および尻鰭前半部に不明瞭な黒斑のあることなど新知見を得た。また、Tsai (1960) の *C. swanius* を本標本および片山 (1973) の *C. igarashiensis* の記載と比較したところ諸形質でよく一致したので、*C. swanius* を *C. igarashiensis* のシノニムとした。

なお、今回の記録により本種の分布の北限が静岡県富戸にあらためられた。

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