A Record of an Ariommid Fish, *Ariomma indica*, from Japan

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Haedrich (1967: 93, 124, fig. 55) reported the occurrence area of *Ariomma indica* (Day) from India to the East China Sea near the Nansei Islands and Taiwan. He, however, did not show any collection data.

We collected nine specimens of *A. indica* from the coast of the Kii Peninsula, central Japan. They represent the first record of this species from Japan. Their characteristics are reported in this paper.

Observation of pharyngeal teeth was based on the cleared and stained material. Numbers of vertical fin rays, vertebrae and predorsal bones were counted from X-ray photographs. Means of counts and proportional measurements are shown in parentheses.

Ariomma indica (Day)
(Japanese name: Maruibodai)
(Fig. 1)

Cubiceps indicus Day, 1870: 690 (type locality: Madras).

Ariomma indica: Haedrich, 1967: 93; Kyushin et al., 1982: 252; Min et al. (eds.), 1982: 15.

Material examined. FUMT-P 3134 (Department of Fisheries, University Museum, University of Tokyo), 158 mm SL, 1 specimen, Feb., 1979; FUMT-P 3313–3316, 4 specimens, 113–141 mm SL, 11–13 Aug., 1982; FUMT-P 3259, 1 specimen, 65 mm SL, May, 1982; FUMT-P 3567, 1 specimen, 167 mm SL, 29 Oct., 1982; FUMT-P 3777, 1 specimen, 154 mm SL, 1 Nov., 1982; these 8 specimens were caught by set nets in Owase, Pacific coast of central Japan.

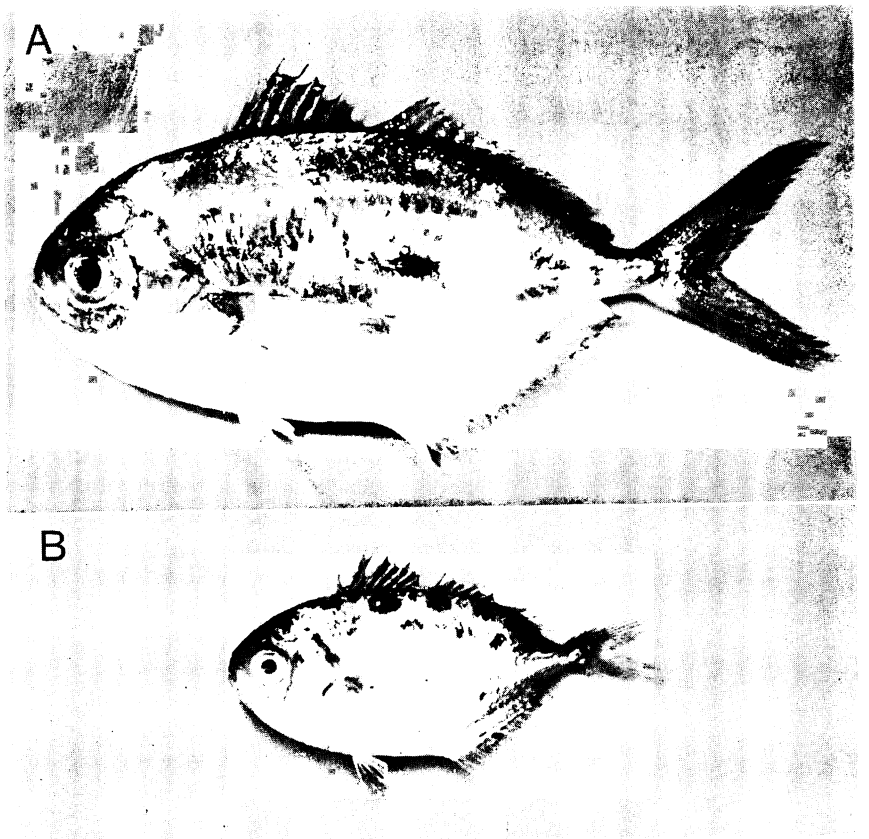

Fig. 1. *Ariomma indica* from Owase, Pacific coast of central Japan. A, FUMT-P 3567, 167 mm SL; B, FUMT-P 3259, 65 mm SL.

FUMT-P 4013, 1 specimen, 163 mm SL, set net, 3 Feb., 1983, Nachi-katsuura, Pacific coast of central Japan.

Diagnosis. The present species is distinguished from congeners by the combination of the following characters; deep and compressed body (body depth 42–50% of SL), 15 rays in both second dorsal and anal fins, and both upper and lower jaws with teeth, especially the hind part of the lower jaw with tricuspid teeth.

Description. D XI–I, 14–15 (XI–I, 15); A III, 15; P_1 21–24 (22); P_2 I, 5; C (branched) 8+7. Lateral-line scales 47–59 (55). Gill rakers on first arch 7–8+1+14–15 (8+1+14). Vertebrae 13+18. Predorsal bones 2.

In percent of standard length: head length 29–33 (31); body depth 42–50 (46); body width 16–19 (17); distance from tip of snout to origin of dorsal fin base 37–39 (38); distance from tip of snout to end of dorsal fin base 89–93 (91); distance from tip of snout to origin of anal fin base 58–64 (60); distance from tip of snout to end of anal fin base 89–92 (91); distance from tip of snout to pectoral insertion 29–36 (33); distance from tip of snout to pelvic insertion 38–42 (40); length of first dorsal fin base 21–29 (23); length of second dorsal fin base 38–40 (39); length of anal fin base 38–42 (40); length of pelvic fin 13–15 (14); length of pectoral fin 29–36 (33).

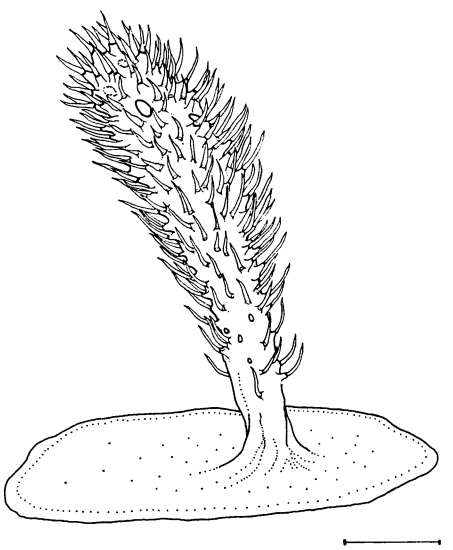

Fig. 2. Papilla in the oesophageal sac of *Ariomma indica*, FUMT-P 3777, 154 mm SL. Scale 1.0 mm.

In percent of head length: snout length 28–32 (30); eye diameter 26–29 (27); interorbital space 35–40 (37); upper jaw length 22–24 (23); least depth of caudal peduncle 22–24 (23); caudal peduncle length 33–40 (36).

Body deep, oval, compressed. Snout blunt anteriorly. Eye large. Adipose eye-lid absent, no adipose tissue on pupil. Nostrils small, located near tip of snout, close-set together. Mouth small. Lower jaw projecting a little beyond upper jaw. Premaxillary not protractile. Gill opening large; gill rakers on first arch slender, with minute spines. Pseudobranchiae well developed.

The smallest specimen with two thread-like keels on each side of caudal peduncle, the other ones without any keels.

Both jaws with slender, minute, comb-like teeth; especially those on hind part of lower jaw tricuspid. Vomer, palatine, tongue and basibranchials toothless.

Scales on body large, deciduous, cycloid; those on head except for occiput region absent. Lateral line concurrent with dorsal contour.

First dorsal fin rather high; spines flexible; the third and fourth longest. Second dorsal fin low; the first ray highest, gently decreasing in height posteriorly. Anal fin low; origins of second dorsal and anal fins opposite. Pectoral fin long; extending to anterior two thirds of second dorsal fin base in adult, reaching to below origin of second dorsal fin in young. Pelvic fin small, received in shallow groove on belly; its insertion a little behind posterior end of pectoral fin insertion.

Oesophageal sac large, internally provided with many papillae; each one with many minute slender teeth, its base consists of a broad, roundish plate; diameter of plate of the large ones subequal to the height (Fig. 2). Largest papilla in the specimen FUMT-P 3777, 154 mm SL, ca. 4.5 mm in height.

Color in fresh specimens. In the smallest specimen (FUMT-P 3259, 65 mm SL), body silvery brown on dorsal side, silvery white on belly; irregular dark blotches on side; anal fin pale, with black dots; both dorsal and pelvic fins black; pectoral fin transparent (Fig. 1B). In medium sized specimens (FUMT-P 3313, 3314; 127, 128 mm SL), irregular dark blotches on body fade out. In large specimens (FUMT-P

3567, 4013; 167, 163 mm SL), no black blotches on side, uniformly silvery brown on dorsal side of body, uniformly silvery white on belly; anal and second dorsal fins silvery, with black dots and black margin; first dorsal fin rather black; pectoral and pelvic fins pale; margin of caudal fin black; peritoneum pale, with few melanophores (Fig. 1A).

Remarks. Haedrich (1967) noted that *A. indica* has two low lateral keels on each side near the caudal fin base, but no keels could be found on the caudal peduncle in the present specimens, excepting the smallest one which has two thread-like keels on each side. The present specimens, however, agree well with those of *A. indica* described by Haedrich (1967) and Haedrich and Horn (1972) in the other morphological characters.

In the present study it was found that the color pattern on the body changes with growth, that is, the smallest specimen (65 mm SL) has conspicuous irregular dark blotches on the body (Fig. 1B), in medium sized specimens the blotches gradually fade out, and large specimens (163, 167 mm SL) have no dark blotches on the side and their color on the body becomes uniformly silvery brown (Fig. 1A).

According to Tabeta and Ishida (1975) and Haedrich (1967), juveniles of *Ariomma* occur in the surface layer of pelagic waters and the adults are bottom or near bottom dwellers, and Kyushin et al. (1982) collected adult specimens of *A. indica* (133–169 mm SL) by bottom trawl.

Zama et al. (1977) reported that the irregular dark pattern on the body of young *Pentaceros japonicus* which live in the surface layer fades out to uniformly brownish in accordance with change of their habitat to the bottom layer. Honma and Mizusawa (1969) also reported a similar change of color pattern in growth of *Pentaceros richardsoni*. Among the stromateoid fishes, *Hyperoglyphe japonica* also changes its color pattern; the young fish which associate with floating seaweeds have irregular dark color patterns on the body and the larger fish which live on the bottom have uniformly grayish body (Masuda et al., 1975).

These facts possibly suggest that in the present species the smallest specimens live in the surface layer and the larger ones live on the bottoms deeper than several tens of meters, because the set nets by which the present specimens were caught were set at ca. 50 m depth.

Acknowledgments

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オオメメダイ科魚類マルイボダイの日本からの記録

浦野貴士・望月賢二

三重県尾鷲と和歌山県那智勝浦でマルイボダイ（シ

ズモドキ）*Ariomma indica* の幼魚から成魚まで9個体を採取した．本種は南西諸島または台湾近くの東シナ海以南に分布するとされており，(Haedrich, 1967)，本州中部からの初めての記録である．

本種は微細な歯をそなえた突起を多数もつ大きな食道嚢があること，背鰭が2基であること，背鰭と臀鰭の軟条数が共に 15 であることなどの特徴によりオオメメダイ属に属する．また，下顎後部の歯が3顎型であること，体高が比較的高いことにより，同属の他種と区別される．

(浦野：116 東京都荒川区町屋 4-31-7；望月：113 東京都文京区本郷 7-3-1　東京大学総合研究資料館水産動物部門)