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First Record of the Gobiid Fish, *Eviota albolineata*, from Japan

Tomoki Sunobe and Kazuhiko Shimada

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The gobiid fish, *Eviota albolineata*, has been reported to be widely distributed from the east coast of Africa to the Tuamotu Archipelago except the Red Sea, Japan and the Hawaiian Islands (Jewett and Lachner, 1983). However, twenty-seven specimens of *E. albolineata* were collected from the Ryukyu Islands and Kagoshima Prefecture, for the first time from Japan. This species is distinguished from all other species of the genus *Eviota* by lacking outstanding color markings when preserved.

Methods for counts, measurement of the fifth pelvic fin ray and descriptions of the cephalic sensory pore and cutaneous papillae systems followed those of Lachner and Karnella (1978, 1980), and for other measurements those of Hubbs and Lagler (1958). Measurements were made by means of a binocular microscope (Nikon SMZ10) with an ocular micrometer. Vertebrae were counted from soft X-ray photographs. Specimens are deposited in the National Science Museum, Tokyo (NSMT), the Department of Marine Sciences, University of the Ryukyus (URM) and the Yokosuka City Museum (YCM).

Eviota albolineata Jewett et Lachner, 1983
(New Japanese name: Shiro-isohaze)
(Figs. 1–3)

Eviota albolineata Jewett and Lachner, 1983: 783, fig. 1c (type locality: Tahiti, shallow patch south of Tapueraha Pass, 0–3.0 m).

Material examined. 27 specimens, 11.9–24.8 mm in standard length (SL): NSMT-P 44747 (4 specimens), Cape Maeda, Okinawa I., Aug. 21, 1983; NSMT-P 44748 (2), Cape Sata, Kagoshima Pref., Sep. 29, 1983; URM-P 2060 and 2273 (2), Suwanose I., URM-P 2112 (1), Nakano I., and URM-P 2113 (1), Iou I., all from Kagoshima Pref., Oct. 1979; URM-P 2419 (1), Onna, Okinawa I., Aug. 9, 1981; URM-P 2452(1), 2453(1) and 2457(4), Onna, Sep. 15, 1981; URM-P 2462 (3), Onna, Oct. 3, 1981; URM-P 2435 (1), Komesu, Okinawa I., Sep. 10, 1981; YCM-P 15899(5) and 15900 (1), Amuro I., Kerama Is., Okinawa Pref., Nov. 23 and 24, 1984.

Comparative material: CAS (California Academy of Sciences, San Francisco) 48469 (6), non-type specimens of *Eviota albolineata*, used for the original description, 15.6–22.2 mm SL, Moorea, Society Is., Polynesia, Jul. 27, 1957.

Description. Counts: Dorsal fin VI-I, 8 (5 specimens), 9 (22); anal fin I, 7 (1), 8 (26); pectoral fin rays 16 (2), 17 (7), 18 (18), 10–15 usually branched; pelvic fin I, 4 plus a small fifth ray, 1/10 of the fourth one in length (23); branches in fourth soft ray of pelvic fin 5–11, average 7.5; segments between consecutive branches of fourth pelvic soft ray 1–5, average 2.2; branched caudal fin rays 11 (8), 12 (13), 13 (4); segmented caudal fin rays 16 (5), 17 (21), 18 (1); lateral scale rows 23 (6), 24 (9), 25 (7); transverse scale rows 6 (6), 7 (16); vertebrae 10 (27)+15 (6), 16 (20), 17(1).

Measurements in per cent of standard length: Depth of body 19.0–26.1; length of head 26.7–30.7; length of snout 4.7–5.8; length of upper jaw 9.3–11.7; diameter of eye 8.2–10.1; width of interorbital 1.2–2.2; length of pectoral fin 24.1–35.1; length of pelvic fin 25.3–31.9; length of caudal fin 24.4–30.2; length of caudal peduncle 17.5–24.7; depth of caudal peduncle 11.7–16.4; length of snout to first dorsal origin 33.5–39.9; length of snout to second dorsal origin 50.6–63.8; length of snout to pelvic origin 29.7–33.0; length of snout to anal origin 60.0–71.4.

Body compressed, slender; caudal peduncle very compressed. Head less compressed than body; steep profile from interorbital region to tip of snout. Eye oval, situated high and anteriorly; its diameter about 1.9 times as long as length of snout. Mouth oblique, relatively small; posterior edge of upper jaw extending below middle of eye.

Spinous dorsal elongation uncommon, observed only in males. Pelvic fin extending to anus and reaching to or not to origin of anal fin; membrane between rays well developed.

Cephalic sensory pore system pattern 1; cutaneous papillae system pattern A; gill membrane broadly attached to isthmus (Fig. 2). Genital papilla not fimbriate in male, bulbous in female (Fig. 3). Scales absent from head, nape, breast and base of pectoral fin.

Color in freshly-dead specimens: The following descriptions are based on a film slide of NSMT-P 44747. Ground color of the body and the head translucent with external and internal reddish

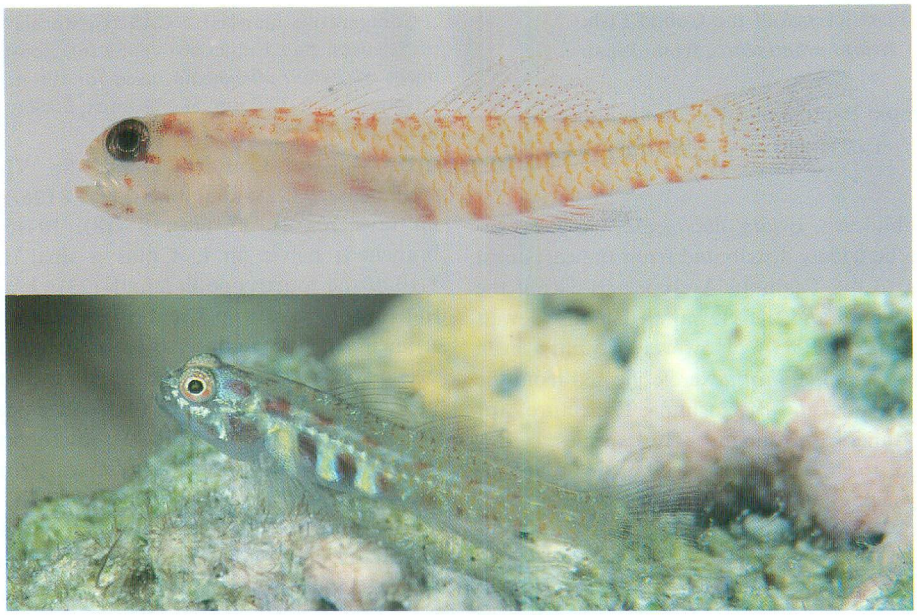

Fig. 1. *Eviota albolineata*. Above, NSMT-P 44747, male, 19.8 mm SL (photo by T. Sunobe); below, underwater photograph at Onna, Okinawa I., 3 m depth, Sep. 22, 1984 (by K. Shimada). Scale indicates 5 mm.

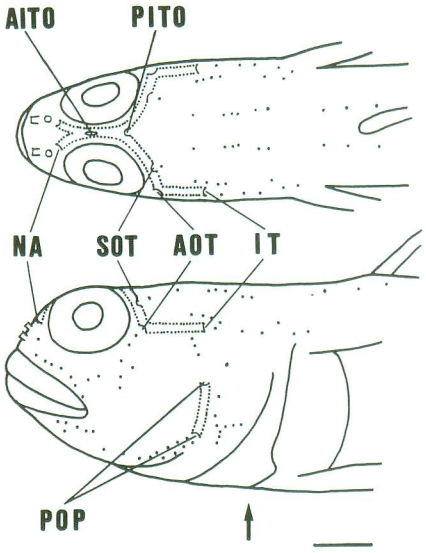

Fig. 2. Cephalic sensory pore system and cutaneous papillae system of *Eviota albolineata*, URM-P 2453, 16.5 mm SL. NA, paired nasals; AITO, anterior interorbital; PITO, posterior interorbital; SOT, paired supraotics; AOT, paired anterior otics; IT, paired intertemporals; POP, paired upper and lower preoperculars. The arrow shows the position of the gill membrane attached to the isthmus. Scale indicates 1 mm.

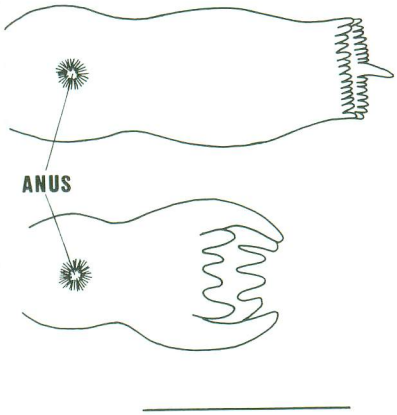

Fig. 3. Urogenital papillae of *Eviota albolineata*. Above, male, URM-P 2452, 17.2 mm SL; below, female, URM-P 2113, 15.0 mm SL. Scale indicates 0.5 mm.

brown chromatophores; several irregular patches on the head, each with fine dark spots except those of the snout; eight subcutaneous spots from the origin of the vertebral column to the posterior edge, eighth one small; belly with three vertical internal bars; seven subcutaneous spots along ventral midline from the origin of the anal fin to the base of the caudal fin, seventh one smallest; small patches on dorsal midline from the nape

to the posterior portion of the caudal peduncle; most of scales with a crescent marking. Iris dark. Membranes of the second dorsal and the caudal fins with small reddish brown spots; distal half part of the anal fin dusky, and the rays of basal portion reddish, while, in some specimens, uniformly dusky and faintly reddish.

Color in living specimens: The following descriptions are based on several film slides of underwater photographs. Ground color of the body and the head translucent with external and internal pale green chromatophores, while the locations of the reddish brown chromatophores the same as those in fresh specimens. Several patches of pale green markings from below the eye to the opercle; the body sparsely speckled; seven subcutaneous spots from the origin of the vertebral column to the posterior edge between the reddish brown chromatophores; three vertical internal bars and reddish brown chromatophores alternating on belly; small patches on the dorsal midline from the origin of the first dorsal fin to the posterior edge of the caudal peduncle. Iris reddish brown. These pale green markings disappeared just after preservation.

Color in preserved specimens: Ground color of the body and the head pale. Iris dark. All reddish brown markings disappeared; dark chromatophores of the head and the anal fin remained.

Ecological notes. This species is usually found in the coral rocks of outer reef edges at depths of about 3–20 m. *Eviota melasma* Lachner et Karnella also shares the same habitat as *E. albolineata*.

Remarks. The specimens agree well with the original description of *Eviota albolineata* and with some non-type specimens used for the original description which we have examined. Jewett and Lachner (1983) described two types of color patterns in life, namely, the Indian Ocean and Western Oceania types. The coloration of our freshly-dead specimens conforms to their Western Oceania type. Some colors in a living specimen disappear just after preservation as in *E. fasciola* (Sunobe and Shimada, 1987). Therefore, the coloration in living specimens and that of freshly-dead ones should be described separately in the genus *Eviota*.

Eviota albolineata is very similar to *E. melasma* in the water. However, the former is distinguished from the latter by lacking several black spots on the dorsal part of the iris.

Acknowledgments

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(TS: Fisheries Laboratory, Faculty of Agriculture, Kyushu University, Hakozaki, Higashi-ku, Fukuoka 812, Japan; KS: Yaeyama Branch, Okinawa Prefectural Government, Tonoshiro 3–2, Ishigaki 907, Japan)

日本初記録のイソハゼ属シロイソハゼ（新称）

須之部友基・島田和彦

沖縄県及び鹿児島県よりイソハゼ属の一種 *Eviota albolineata* シロイソハゼ（新称）を 27 個体採集した．本種はインド洋から西太平洋にかけて広く分布するが，本報告が日本初記録である．本種は固定後，明瞭な斑紋を欠くことで同属他種とは容易に区別される．

(須之部: 812 福岡市東区箱崎 九州大学農学部水産学第二教室；島田: 907 石垣市登野城 3-2 沖縄県八重山支庁)