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Two new dwarfgobies (Teleostei: Gobiidae) from the Ryukyu Islands, Japan: *Eviota flavipinnata* and *Eviota rubrimaculata*

TOSHIYUKI SUZUKI¹, DAVID W. GREENFIELD^{2,4} & HIROYUKI MOTOMURA³

¹Kawanishi-midoridai Senior High School, 1-8 Kouyoudai, Kawanishi, Hyogo 666-0115, Japan.

Email: trimma-toshiyuki@hop.ocn.ne.jp

²Research Associate, Department of Ichthyology, California Academy of Sciences, 55 Music Concourse Dr., Golden Gate Park, San Francisco, California 94118-4503 USA

Professor Emeritus, University of Hawaii, Mailing address: 944 Egan Ave., Pacific Grove, CA 93950 USA.

E-mail: greenfie@hawaii.edu

³The Kagoshima University Museum, 1-21-30 Korimoto, Kagoshima 890-0065, Japan. E-mail: motomura@kaum.kagoshima-u.ac.jp

⁴Corresponding author

Abstract

Two new species of *Eviota* from Yoron Island, the Ryukyu Islands, Japan, are described. Both species belong to the cephalic sensory-canal pore system pattern 2 (lacking only the H [IT] pore); have some pectoral-fin rays branched; have a dorsal/anal-fin formula of 9/8; no dark spot over the ural centrum; no prominent distinct dark spots on the pectoral-fin base; no postocular spots; and no strong dark spots on the caudal fin. The species share the most characters with *E. afelei*, *E. bimaculata* and *E. punctulata*, but differ from *Eviota afelei* and *E. punctulata* by having two versus three dark marks over the anal-fin base, and from *Eviota bimaculata* by lacking the two dark, prominent occipital spots present in that species. Both species differ from all other described species of *Eviota* in fresh coloration. *Eviota flavipinnata* has bright golden-yellow dorsal fins and an orange anal fin, and a fifth pelvic-fin ray that is 12% the length of the fourth ray. *Eviota rubrimaculata* has clear dorsal fins with red spots, large red spots on the body, and lacks the fifth pelvic-fin ray.

Key words: taxonomy, gobies, new species, Indo-Pacific, Pacific Ocean, Ryukyu, Japan, coral-reef fishes

Introduction

During a 2011 to 2014 ichthyofaunal survey off Yoron Island in the Amami Group, Kagoshima Prefecture, southern Japan, led by the Kagoshima University Museum (KAUM) and National Museum of Nature and Science, four undescribed species were collected. These species were previously illustrated in the field guide to fishes of Yoron Island and referred to by the first author (Suzuki 2014). Of these, *Eviota* sp. 1 and *Eviota* sp. 2 were described as *Eviota specca* Greenfield, Suzuki & Shibukawa 2014 and *Eviota filamentosa* Suzuki & Greenfield 2014 respectively. In this paper we describe *Eviota* sp. 3 and *Eviota* sp. 4 recognized by Suzuki (2014).

Whereas most specimens of *Eviota* in the past were collected as part of larger rotenone collections and species described based on preserved specimens lacking information on live coloration, more recently specimens have been collected individually after being photographed underwater or fresh. This results in well-preserved specimens that have not been damaged by being in proximity to larger fishes. This change also has provided new information on fresh and live coloration, and the realization that color is a valid character in this genus. Using sequence data from mitochondrial and nuclear DNA, Greenfield & Tornabene (2014) demonstrated that four species within the *E. nigriventris* species complex that differ only in live coloration are genetically distinct species. Tornabene (personal communication, 11 July 2015) has shown that *E. sebreei*, once thought to be widely distributed, is composed of two genetically distinct species, one red and one black, that do not differ morphologically. Allen *et al.* (2013) described *E. pamae* based on live color differences from *E. raja* saying, “Live colour patterns in particular (including eye colouration) are highly diagnostic for members of this genus..”, and Tornabene *et al.* (2015) also discussed these