



## A new species of *Upeneus* (Perciformes: Mullidae) from southern Japan

MASAHIRO YAMASHITA<sup>1</sup>, DANIEL GOLANI<sup>2</sup> & HIROYUKI MOTOMURA<sup>3,4</sup>

<sup>1</sup>Graduate School of Fisheries, Kagoshima University, 4-50-20 Shimoarata, Kagoshima 890-0056, Japan

<sup>2</sup>Department of Evolution, Systematics and Ecology, Hebrew University of Jerusalem, 91904 Jerusalem, Israel

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

<sup>4</sup>Corresponding author

### Abstract

A new species of goatfish, *Upeneus itoui*, is described on the basis of 67 specimens collected from southern Japan at depths of less than 40 m. *Upeneus itoui* is most similar to the western Indian Ocean species, *U. pori*. The caudal-fin color pattern in fresh and preserved specimens of the two species is identical. However, *U. itoui* differs from *U. pori* in having less head and body depths, wider barbels, and a lower count of gill rakers.

**Key words:** Mullidae, *Upeneus itoui*, new species, *Upeneus pori*, southern Japan

### Introduction

The western Indian Ocean goatfishes of the genus *Upeneus* Cuvier, 1829 (Perciformes: Mullidae) were reviewed by Uiblein & Heemstra (2010); they recognized 26 valid species in the genus, including four species described as new. They defined four major species groups in the genus using a combination of the numbers of dorsal-fin spines, gill rakers and pectoral-fin rays, and caudal-fin coloration.

During an ichthyological survey of southern Japan, 51 unidentified examples of *Upeneus* were collected from Kagoshima Prefecture at depths of less than 40 m. Subsequently, we confirmed that the same species occurs off Okinawa-jima Island in the Ryukyu Islands, and the Pacific coast of southern Japan, including Miyazaki, Ehime, and Kochi Prefectures, on the basis of museum collections (13 specimens from Okinawa and 3 from Miyazaki) and underwater photographs (Ehime and Kochi). These specimens have seven dorsal-fin spines and belong to the *Upeneus japonicus* group, as defined by Uiblein & Heemstra (2010). A comparison of the Japanese specimens with all members of the *U. japonicus* group suggested that the species represented by the former is most similar morphologically to *Upeneus pori* Ben-Tuvia & Golani, 1989, known from southern Oman to the Red Sea, and as an immigrant to the Mediterranean via the Suez Canal; both species share the unique color patterns of the body and fins. However, the Japanese specimens differ from *U. pori* in having less head and body depths, wider barbels and a lower count of gill rakers. Thus, the Japanese specimens are described herein as a new species.

### Material and methods

Counts and measurements generally followed Randall & Kulbicki (2006). Maximum body and head depths were taken vertically at the dorsal-fin origin and the ventral edge of opercle respectively. Distance between the dorsal fins was from the last spine of the first dorsal fin to the second dorsal-fin origin. Barbel width was measured at the base of left barbel. Standard, head and total lengths are abbreviated as SL, HL and TL respectively. Osteological characters were examined from radiographs taken from 7 paratypes of the new species and 6 specimens of *Upeneus pori*. The presence of a swimbladder was confirmed by dissection of the abdomen on the right side. Institutional codes followed Sabaj Pérez (2010) with an additional institutional abbreviation as follows: SNFR—Seikai National Fisheries Research Institute, Nagasaki, Japan.