



## A new goatfish of the genus *Upeneus* (Mullidae) from Lombok, Indonesia and first verified record of *U. asymmetricus* for the Indian Ocean

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### Abstract

*Upeneus lombok* n. sp. is described from two specimens collected off Lombok, Indonesia, at depths of 54–76 m, and one subadult specimen from the local fish market at Tanjung Luar, Lombok. Four specimens of *U. asymmetricus* were collected at the same fish market representing the first record of the species since its description from two Philippine Islands in 1954. These two species are compared in detail and with five congeneric species that all share a 7-spined dorsal fin and a high gill-raker count. *Upeneus lombok* n. sp. differs from all other congeners in having a short snout (snout length 9.0–9.6% SL) combined with a low anal fin (anal-fin height 12–13% SL in adults, 15% in single subadult). The newly recorded *U. asymmetricus* specimens differ from their types only slightly and all eight specimens together differ from all congeneric species in the combination of 7 dorsal spines, 12–14 pectoral fin rays, 26–28 total gill rakers, short pectoral fins (pectoral-fin length 18–21% SL) and short jaws (upper jaw length 8.7–11% SL). In both species the caudal-fin colour patterns of fresh fish are of diagnostic significance, the only exception being a close similarity between *Upeneus lombok* n.sp., *U. saiab*, and *U. seychellensis*. Additional comparisons with 14 *Upeneus* species which overlap in distribution or occur in nearby areas are also made. Needs for further taxonomic exploration of the Indonesian-Philippine region and for enhanced attention to the economic and ecological importance of *Upeneus* species are discussed.

**Key words:** *Upeneus lombok* n. sp., fresh colour, Indonesia-Philippine region, fish markets

### Introduction

The goatfish genus *Upeneus* comprises 36 hitherto recognized species (Uiblein & Gledhill, 2015), many of which have been assembled in phenotypically distinct groups to facilitate taxonomic comparisons (Uiblein & Heemstra, 2010; Uiblein & Causse, 2013). One of these species groups, the “japonicus” group, consists of ten species which are characterized by 7 dorsal-fin spines (Uiblein & Gledhill, 2015): *Upeneus asymmetricus* Lachner, 1954 (Philippines), *U. australiae* Kim & Nakaya, 2002 (Australia, New Caledonia), *U. francisi* Randall & Guézé, 1992 (New Zealand, Norfolk Island), *U. guttatus* (Day, 1868) (Indo-West Pacific), *U. itoui* Yamashita, Golani & Motomura, 2011 (Japan), *U. japonicus* (Houttuyn, 1782) (West Pacific), *U. pori* Ben-Tuvia & Golani, 1989 (Western Indian Ocean, Eastern Mediterranean), *U. saiab* Uiblein & Lisher, 2013 (northern Mozambique), *U. seychellensis* Uiblein & Heemstra, 2011 (Seychelles Bank), and *U. torres* Uiblein & Gledhill, 2015 (northern Australia, Vanuatu). Four of these ten species have been described only recently (since 2011). There is need for further taxonomic research to fully reveal the diversity of the genus *Upeneus*, especially in the Eastern Indian Ocean and Western Pacific regions (Uiblein & Gouws, 2014; Uiblein & Gledhill, 2015).

The marine realm extending from western Indonesia (Eastern Indian Ocean) to the Philippines (Western Pacific) is part of a global hot spot of coastal marine biodiversity, the “Coral Triangle”, which includes Malaysia, Papua New Guinea, the Solomon Islands, and Timor-Leste (Mora *et al.*, 2003; Hoeksema 2007; Veron *et al.*, 2009). While coastal fish diversity has been found to reach particular high levels in the Central Philippines (Carpenter &