



# Article

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## A new deep-water goatfish of the genus *Upeneus* (Mullidae) from northern Australia and the Philippines, with a taxonomic account of *U. subvittatus* and remarks on *U. mascareinsis*

FRANZ UIBLEIN<sup>1,2,4</sup> & MARK MCGROUTHER<sup>3</sup>

<sup>1</sup>Institute of Marine Research, Bergen, P.O. Box 1870 Nordnes, N-5817 Bergen, Norway

<sup>2</sup>South African Institute of Aquatic Biodiversity, Grahamstown, South Africa

<sup>3</sup>Australian Museum, Sydney, Australia

<sup>4</sup>Corresponding author. E-Mail: franz@imr.no

### Abstract

*Upeneus stenopsis* n. sp. is described based on four specimens collected off northern Australia and Quezon Island, Philippines, at depths between 165 to 275 m and compared with four closely related species: the deep-water dwelling *Upeneus davidaromi* (Red Sea) and *U. mascareinsis* (Western Indian Ocean) and the shallow Indo-West Pacific species, *U. subvittatus* and *U. vittatus*. The new species can be distinguished from all other *Upeneus* species by a narrow caudal peduncle and a combination of morphometric and meristic characters. This is the first record of a deep-water goatfish of the genus *Upeneus* from the Pacific. A juvenile *Upeneus* collected off Quezon at 127–142 m depth was also assigned to the new species and compared to four similar-sized (69–79 mm SL) specimens of *U. mascareinsis*. A diagnosis is provided for *U. subvittatus*, along with evidence of its occurrence in the Eastern Indian Ocean and interspecific comparisons. The continued need to screen scientific fish collections for the occurrence of undescribed species that have successfully colonized and adapted to the depth zone surrounding the ocean margin is outlined.

**Key words:** *Upeneus stenopsis*, new species, ocean margin habitats, ontogeny

### Introduction

The depth zone surrounding the ocean margin (Huthnance 1995) extending from the lower shelf to the slope below the shelf edge (ca. 100–400 m) deserves enhanced attention by fish systematists. Characterized by low light levels and an often rugged and/or steep topography this zone is inhabited by a rather transitive demersal fish assemblage composed of both shallow-water and deep-sea dwellers that overlap in depth ranges (Uiblein *et al.* 1998), but also by species with rather narrow bathymetric ranges occurring mostly within this zone. The latter applies for many cuskeel species of the genus *Neobythites* (Ophidiidae), of which several have been discovered and described recently (e.g., Nielsen & Uiblein 1993; Nielsen 2002; Nielsen *et al.* 2009; Ohashi *et al.* 2012). Two goatfish species in the genus *Upeneus* (Mullidae) occur in this depth zone: Darom's goatfish *Upeneus davidaromi* Golani, 2001 and the Mascarene goatfish *Upeneus mascareinsis* Fourmanoir & Guézé, 1967 (Uiblein & Heemstra 2010).

The genus *Upeneus* consists of 29 hitherto recognized species (Uiblein & Heemstra 2011; Yamashita *et al.* 2011), most of which typically occur in shallow coastal waters above 100 m. In contrast, *U. davidaromi* of the Red Sea occurs at 150 to 600 m depth, while the closely related species *U. mascareinsis* from the Indian Ocean proper has been reported from 100 to 400 m depth (Uiblein & Heemstra 2010). These two species resemble in morphology and colour patterns several other congeneric species with which they were assigned to a distinct species group, the so called *vittatus* group (Uiblein & Heemstra 2010, 2011).

In their taxonomic review of Western Indian Ocean (WIO) species of the genus *Upeneus*, Uiblein and Heemstra (2010) distinguished *U. mascareinsis* from the silver goatfish *Upeneus subvittatus* (Temminck & Schlegel, 1843) based on body colouration and a multivariate analysis of morphometric characters. The latter allowed a clear separation between WIO *U. mascareinsis* and W Pacific *U. subvittatus*. A single specimen from