Zootaxa 3760 (3): 420–428
www.mapress.com/zootaxa/

Article

ISSN 1175-5326 (print edition)
ZOOTAXA
ISSN 1175-5334 (online edition)

http://dx.doi.org/10.11646/zootaxa.3760.3.8
http://zoobank.org/urn:lsid:zoobank.org:pub:E5C6A586-AE2C-49B9-B537-ED50505DE832

Trimma helenae (Pisces; Gobioidei), a new species of gobiid fish from Indonesia

RICHARD WINTERBOTTOM[1,5], MARK V. ERDMANN[2,3] & N. K. DITA CAHYANI[4]

[1]*Royal Ontario Museum, Department of Natural History, 100 Queen's Park, Toronto, Ontario, Canada M5S 2C6 and University of Toronto, Department of Ecology and Evolutionary Biology, 25 Willcocks Street, Toronto, Ontario, Canada M5S 3B2.*
[2]*Conservation International Indonesia, Jl. Dr. Muwardi No. 17, Renon, Denpasar 80235, Indonesia*
[3]*California Academy of Sciences, Golden Gate Park, San Francisco, CA 94118 USA.*
E-mail: mverdmann@gmail.com
[4]*Indonesia Biodiversity Research Centre, Faculty of Veterinary Medicine, Udayana University, Bali 80226 Indonesia.*
E-mail: ditacahyani@ibrc-bali.org
[5]*Corresponding author. E-mail: rickw@rom.on.ca*

Abstract

A new species of *Trimma, T. helenae*, is described from the southeastern lagoon at Penemu Island off the southwest coast of Waigeo, Raja Ampat, Indonesia. The new species has a unique colour pattern when alive, consisting of a yellow anterior half and red posterior half, with four small white spots along the midline of the dorsal and ventral surfaces of the caudal peduncle. It is also the only species of the genus to have a nasal sac that is flush with the snout surface (not raised above the level of the snout or only represented by a nasal pit), and which lacks a raised rim to the posterior nasal pore. *Trimma helenae* belongs to a group of 12 valid nominal species defined by having a broad bony interorbital region (width 80–100% of pupil diameter), but differs from all of but three of these in having only cycloid scales in the midline and on the sides of the nape. The other members of the group have mostly ctenoid scales in this region.

Key words: systematics, new species, Gobiidae, *Trimma*, Indonesia, coral reefs

Introduction

Trimma Jordan & Seale, 1906 (type species: *T. caesiura* Jordan & Seale, 1906) contains 73 valid described species of small (<30 mm SL), often colourful gobiids, primarily associated with Indo-Pacific coral reefs. Members of the genus may be recognized by the lack of cephalic sensory canal pores, a much reduced cephalic sensory papillae pattern, a wide gill opening extending anteriorly to below the vertical limb of the preopercle or, more usually, anterior to this, a lack of spicules (odontoids) on the outer gill rakers of the first gill arch, fewer than 12 dorsal and anal fin rays, and a fifth pelvic fin ray that is equal to or more than 40% the length of the fourth pelvic fin ray (Winterbottom, 2011).

Winterbottom (2011, citing unpublished data) estimated that there were about 35 known, but currently undescribed species, for a total count in the vicinity of 110 species. However, recent research involving the CO1 gene suggests that the plethora of cryptic species in the genus may well double this number (Winterbottom *et al*, submitted manuscript).

The new species we describe here was not included among the undescribed species listed in Winterbottom (2011), nor is it a cryptic species discovered with molecular techniques. Rather, it was first encountered during a rapid reef condition and biodiversity assessment conducted by the Sea Sanctuaries Trust and Conservation International from 29 January–9 February 2013 in the Fam Islands group of the Raja Ampat archipelago in West Papua Province, Indonesia. With the strong support of the Raja Ampat local government, Sea Sanctuaries Trust entered into a marine conservation agreement in 2010 with the local tenure-holding communities in the Fam Islands to create two fully-protected marine reserves to help restore fisheries in the region. The rapid assessment was conducted to map reef habitat and condition in the two reserves for management purposes, and during a survey of the unique deep lagoon on the southeast corner of Penemu Island, several new taxa (including this new *Trimma*)

 Accepted by W. Holleman: 12 Dec. 2013; published: 3 Feb. 2014

sponsoring and leading the survey which led to this discovery. Gerald Allen and Marie-Elizabeth Mali were able dive buddies, and the crew of both the *MV Dewi Nusantara* and Papua Diving provided professional dive support with a smile and plenty of style. Financial support for the IBRC was provided by the United States Agency for International Development's "Supporting Universities to Partner across the Pacific" program (Cooperative Agreement No. 497-A-00-10-00008-00).

References

Allen, G.R. & Erdmann, M.V. (2012) *Reef fishes of the East Indies. Vol. III*. Tropical Reef Research, Perth, Australia, 857–1292.

Allen, G.R. & Erdmann, M.V. (2013) Coral reef fishes of the Anambas Archipelago. *In*: Mustika, P., Erdmann, M.V. & Gunawan, T. (Eds.), *A rapid marine biodiversity assessment of the Anambas Islands Marine Tourism Park. RAP Bulletin of Biological Assessment 69*. Conservation International, Virginia, pp. 95–132.

Jordan, D.S. & Seale, A. (1906) The fishes of Samoa. Description of the species found in the archipelago, with a provisional check-list of the fishes of Oceania. *Bulletin of the Bureau of Fisheries*, 25 (for 1905), 173–455 + index 457–488, pls. 33–53.

Winterbottom, R. (2003) A new species of the gobiid fish *Trimma* from the western Pacific coral reefs, with a description of its osteology. *Zootaxa*, 218, 1–24.

Winterbottom, R. (2011) Six new species of the genus *Trimma* (Percomorpha; Gobiidae) from the Raja Ampat Islands, Indonesia. *aqua, International Journal of Ichthyology*, 17 (3), 127–162.

Winterbottom, R. & Zur, M. (2007) Three new species of the *Trimma* from Palau, Western Pacific (Percomorpha; Gobiidae). *aqua, International Journal of Ichthyology*, 13 (1), 13–24.