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A new species of Near-shore Marine Goby (Pisces: Gobiidae: *Nesogobius*) from Kangaroo Island, Australia

MICHAEL P. HAMMER^{1,3}, DOUGLASS F. HOESE² & TERRY BERTOZZI^{3,4}

¹Museum & Art Gallery of the Northern Territory, PO Box 4646, Darwin, Northern Territory 0801, Australia.

E-mail: michael.hammer@nt.gov.au

²Australian Museum, 6 College Street, Sydney, New South Wales 2010, Australia

³South Australian Museum, North Terrace, Adelaide, South Australia 5000, Australia

⁴School of Biological Sciences, University of Adelaide, North Terrace, Adelaide, South Australia 5005, Australia

Abstract

Nesogobius is one of two goby genera with all species wholly restricted to temperate Australian waters. Described here is a new member of the genus discovered during near-shore marine and estuarine fish sampling along the central southern Australian coastline. The tiger sandgoby *Nesogobius tigrinus* **sp. nov.** is distinguished from other congeners by a combination of colouration including four prominent vertical black bars on males; morphological characters involving body scales (large), head scales (naked), body depth (slender) and gill opening (wide); meristic counts including a lack of second dorsal and anal fin spines; and mitochondrial DNA sequence divergence. The species appears to be a narrow range endemic, restricted to specific sub-tidal habitat in the unique sheltered embayments of northeast Kangaroo Island. This study forms part of ongoing investigations to more fully describe the biodiversity and conservation requirements of the regional ichthyofauna.

Key words: fishes, marine biodiversity, conservation, taxonomy, molecular systematics

Introduction

The family Gobiidae is one of the most diverse fish families, and documented numbers continue to grow rapidly as a result of new species discovery and description. Some 1640 species are recognised, with on average 25 new species being described a year over the last decade. Most of the goby diversity in Australia, where a fauna of around 360 species is known, occurs in the tropics principally in reef and mangrove habitats (Hoese & Larson 2006a). In temperate waters of southern Australia 29 native species have been recorded (Hutchins & Swainston 1999; Hammer 2006; Hoese & Larson 2006a, 2008), comprising typically singular temperate representatives of otherwise tropical genera, but also two unique multi-species genera restricted to temperate seas, namely *Nesogobius* and *Tasmanogobius* (Hoese 1991).

Nesogobius is a group of small colourful gobies, often adorned by iridescent body markings and speckling. They live over and bury in fine sand, in a broad range of habitats including estuaries, marine embayments and reef, ranging from the intertidal to well offshore (ca. 60 m). There are currently four described species, *Nesogobius hinsbyi* (McCulloch & Ogilby, 1919), *Nesogobius pulchellus* (Castelnau, 1872), *Nesogobius greeni* Hoese & Larson, 2006b and *Nesogobius maccullochi* Hoese & Larson, 2006b. At least five undescribed species have also been recognised and characterised in previous treatments (Hoese & Larson 1994; 2006a; 2008) and are the subject of ongoing review (Hoese & Larson in prep.). The revision has partly been hampered by a paucity of material available for examination, and the sometimes poor condition of specimens due to their small and fragile nature. Here we describe a previously unknown species recently observed during near-shore marine fish biodiversity assessments in central southern Australia targeting behaviourally and morphologically cryptic species such as gobies.