



A new species of the deepwater clingfish genus *Kopua* (Gobiesociformes: Gobiesocidae) from the East China Sea—an example of antitropicality?

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Abstract

A new species of deepwater clingfish, *Kopua japonica* sp. nov., is described from the East China Sea. It is distinguished from the other members of the genus by anal and dorsal fin ray counts and a unique arrangement of sensory pores on the head. It is also the first record of the genus from the Northern Hemisphere and this record may be an important deepwater addition to antitropicality in marine fishes.

Key words: Antitropical, Japan, Australia, New Zealand, deepsea fish, nuimata, kuiteri

Introduction

Most marine clingfishes, family Gobiesocidae, are found in shallow, warm-temperate seas (Briggs 1955), however several genera are known from deeper waters – e.g., *Gymnoscyphus* in the Atlantic (Böhlke & Robins 1970), and *Kopua* in the Indo-Pacific (Hardy 1984). The gobiesocid genus *Kopua* Hardy 1984 was first designated when the type species, *Kopua nuimata* Hardy 1984, was described from six specimens collected from New Zealand waters in depths between 166 and 337 metres. Soon after, an Australian representative of the genus, *Kopua kuiteri* Hutchins 1991, was described from a single individual collected at around 100 m depth from New South Wales, Australia. Since then, several other specimens of this latter species have been collected from southern Australia, including a relatively recent record from Western Australia (see additional material examined, below). The genus *Kopua* is characterised by, *inter alia*, large eyes separated by a very narrow interorbital and a ‘double’ ventral sucking disc (see Briggs 1955), with a distinctly striated and squared posterior fringe (Hardy 1984). All specimens of the genus have been collected in water depths greater than 90 metres.

This paper describes a new species of *Kopua* from the East China Sea. It provides a comparison with the other members of the genus and considers the possible antitropical distribution of the genus. Antitropical distributions, where related taxa are found on either side of the equator, but not in the tropics, are known for a variety of marine taxa (e.g., Burrige 2002; Crame 1993; Hubbs 1952; Lindberg 1991; Nakamura *et al.* 2012).

Methods

Terminology and measurements follow Briggs (1955) and Hutchins (1983). Temporary staining with Cyanine Blue 5R (see Saruwatari *et al.* 1997) was used to provide enhanced contrast, especially for fin rays and head pores. Radiographs were used for vertebral counts. Examined material is housed at the Australian Museum, Sydney (AMS), the Australian National Fish Collection, Hobart (CSIRO), the Museum of New Zealand Te Papa Tongarewa, Wellington (NMNZ) and the National Science Museum Tokyo (NSMT). Abbreviations follow Fricke & Eschmeyer (2012).