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A new species of bonefish, *Albula koreana* (Albuliformes: Albulidae) from Korea and Taiwan

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Abstract

A new species of the genus *Albula* of the family Albulidae is described based on five specimens collected from Korea and Taiwan. Its new scientific name, *Albula koreana* **sp. nov.**, is derived from its type locality (Korea). We compared *Albula koreana* **sp. nov.** with its similar species, *A. argentea* from Fiji (seven specimens), using morphological and molecular methods. *Albula koreana* **sp. nov.** differs morphologically from *A. argentea* in its tooth patch distributions on the mesopterygoids and parasphenoid. The tooth patches on the mesopterygoids are distributed more anteriorly than those on the parasphenoid in *Albula koreana* **sp. nov.** On the other hand, the anterior end of the tooth patches on the mesopterygoids almost corresponds to that of the tooth patches on the parasphenoid in *A. argentea*. The numbers of vertebrae also differ between the two species (77–78 in *Albula koreana* **sp. nov.** vs 72–73 in *A. argentea*). We analyzed 546 base pairs of the mitochondrial cytochrome *b* gene sequence, and the *Albula koreana* **sp. nov.** sequence differed considerably from that of *A. argentea*. Kimura's genetic distances between them were very large (15.9%–16.4%), robustly supporting the new species *Albula koreana* **sp. nov.**

Key words: *Albula koreana*, new bonefish, mitochondrial cytochrome *b*, Korea, Taiwan

Introduction

The bonefishes of the genus *Albula* Scopoli 1777 are widely distributed in tropical and subtropical waters, and 10 species of *Albula* (eight valid and two undescribed species) are so far recognized worldwide (Colborn *et al*. 2001; Hidaka *et al*. 2008; Pfeiler 2008; Pfeiler *et al*. 2008). In the Atlantic Ocean, *Albula vulpes* (Linnaeus 1758) was first reported from the Bahamas, and *Albula nemoptera* (Fowler 1911) was the second species reported, which has elongated last dorsal and anal fin rays. Recently, Pfeiler (2008) and Pfeiler *et al*. (2008) resurrected *Albula esuncula* (Garman 1899) and *Albula pacifica* (Beebe 1942) from two undescribed species of *Albula* (*Albula* sp. C and E) suggested by Colborn *et al*. (2001), using molecular analyses. *Albula glossodonta* (Forsskål 1775), with a rounded lower jaw, was the first *Albula* species reported in the Indo-Pacific Ocean, followed by *Albula oligolepis* Hidaka, Iwatsuki and Randall 2008, identified by Hidaka *et al*. (2008), on the basis of its morphological characteristics (location of the pelvic fin tip, the number of pored lateral scales, and the number of vertebrae). Hidaka *et al*. (2008) also resurrected the name *Albula argentea* (Forster in Bloch and Schneider 1801), which they treated as a senior synonym of *Albula forsteri* Valenciennes in Cuvier and Valenciennes 1847, and *Albula virgata* (Jordan and Jordan 1922). Among the four *Albula* species that are currently recognized in the Indo-Pacific Ocean, *A. glossodonta* can be distinguished easily from the other three species by its morphology (rounded lower jaw in *A. glossodonta* vs pointed lower jaws in the other three species), and the other three species are easily distinguishable by their geographical distributions (Pacific Ocean for *A. argentea*, Indian Ocean for *A. oligolepis*, and the Hawaiian region for *A. virgata*) (Hidaka *et al*. 2008).

Recently, Kwun *et al*. (2011) compared five specimens of *Albula* sp. collected from Korea and Taiwan with reference data (Pfeiler *et al*. 2006; Hidaka *et al*. 2008; Pfeiler 2008), using morphological and molecular analyses. In those analyses, *Albula* sp. from Korea and Taiwan did not correspond to any *Albula* species, suggesting that it was an undescribed species. To clarify the taxonomic status of the five *Albula* sp. specimens collected from Korea

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