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After eighty years of misidentification, a name for the glass catfish (Teleostei: Siluridae)

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Abstract

We resolve the identity of the glass catfish, a species of Asian freshwater fish commonly encountered as an ornamental fish and an experimental subject that has long been misidentified as either *Kryptopterus bicirrhis* or *K. minor*. Our study indicates that the glass catfish is an unnamed species distinct from either, which we describe here as *Kryptopterus vitreolus*. *Kryptopterus vitreolus* is known from river drainages in peninsular and southeastern Thailand, and is distinguished from congeners in having a combination of: transparent body in life, maxillary barbels reaching beyond the base of the first anal-fin, dorsal profile with a pronounced nuchal concavity, snout length 29–35% head length (HL), eye diameter 28–34% HL, slender body (depth at anus 16–20% standard length (SL)) and caudal peduncle (depth 4–7% SL), 14–18 rakers on the first gill arch, and 48–55 anal-fin rays.

Key words: Peninsular Thailand, *Kryptopterus*

Introduction

Silurid catfishes of the genus *Kryptopterus* Bleeker 1858 are small- to moderate-sized (ca 70–300 mm SL) fishes found predominantly in fluvial systems throughout Southeast Asia. The non-monophyly of the genus has been demonstrated by Bornbusch (1995), who showed it to comprise of six distinct clades (the *K. apogon*, *K. bicirrhis*, *K. kryptopterus*, *K. hexapterus*, *K. limpok* and *K. schilbeides* groups). However, this paraphyly has only been partially reflected in the current taxonomy, with the *K. apogon* and *K. hexapterus* groups being assigned to distinct genera (*Phalacronotus* and *Micronema* respectively; Ferraris, 2007). Following the results of recent studies on the diversity of *Kryptopterus*, the membership of remaining groups assigned to *Kryptopterus* are as follows: *K. bicirrhis* group—*K. bicirrhis* Valenciennes in Cuvier & Valenciennes 1840, *K. lais* (Bleeker 1851), *K. palembangensis* (Bleeker 1852), *K. macrocephalus* (Bleeker 1858), *K. minor* Roberts 1989, and *K. piperatus* Ng, Wirjoatmodjo & Hadiaty 2004; *K. kryptopterus* group—*K. kryptopterus* (Bleeker 1851), and *K. geminus* Ng 2003; *K. limpok* group—*K. limpok* (Bleeker 1852), *K. mononema* (Bleeker 1846), *K. dissitus* Ng 2001, *K. baramensis* Ng 2002, and *K. hesperius* Ng 2002; *K. schilbeides* group—*K. schilbeides* (Bleeker 1858), and *K. paraschilbeides* Ng 2003.

One of the best-known members of the Siluridae is the transparent species often referred to as the glass catfish. This is the most commonly encountered silurid in the ornamental fish trade (Chapman *et al.*, 1997; Finley, 2009), in which it has been present at least since 1934 (Innes, 1934). It has long been identified in aquarium literature as *Kryptopterus bicirrhis* (e.g., by Ferraris, 1991), or more recently *K. minor* (e.g., by Finley, 2009). This species has also been the subject of numerous studies in neurobiology (Roth, 2004; Peters *et al.*, 2008) and physiology (Steffensen *et al.*, 1986; Jensen *et al.*, 2009), where it has always been identified as *K. bicirrhis*.

Despite being known to aquarists and scientists since 1934 (Sterba, 1970), the exact identity of the glass catfish has not been thoroughly investigated. The present study resolves this deficiency, in the course of which we discovered that the glass catfish is neither *K. bicirrhis* nor *K. minor*, but an unnamed species that we describe herein as *K. vitreolus*.