



Two new species of shovel-jaw carp *Onychostoma* (Teleostei: Cyprinidae) from southern Vietnam

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Abstract

Two new species of large shovel-jaw carps in the genus *Onychostoma* are described from the upper Krong No and middle Dong Nai drainages of the Langbiang Plateau in southern Vietnam. These new species are known from streams in montane mixed pine and evergreen forests between 140 and 1112 m. Their populations are isolated in the headwaters of the upper Sre Pok River of the Mekong basin and in the middle of the Dong Nai basin. Both species are differentiated from their congeners by a combination of the following characters: transverse mouth opening width greater than head width, 14–17 predorsal scales, caudal-peduncle length 3.9–4.2 times in SL, no barbels in adults and juveniles, a strong serrated last simple ray of the dorsal fin, and small eye diameter (20.3–21.5% HL). *Onychostoma krongnoensis* sp. nov. is differentiated from *Onychostoma dongnaiensis* sp. nov. by body depth (4.0 vs. 3.2 times in SL), predorsal scale number (14–17 vs. 14–15), dorsal-fin length (4.5 vs. 4.2 times in SL), caudal-peduncle length (3.9 vs. 4.2 times in SL), colour in life (dark vs. bright), and by mitochondrial DNA (0.2% sequence divergence). Molecular evidence indicates that both species are members of *Onychostoma* and are distinct from all congeners sampled (uncorrected sequence divergences at the 16S rRNA gene of >2.0% for all *Onychostoma* for which homologous 16S rRNA sequences are available).

Key words: Langbiang Plateau, *Onychostoma krongnoensis* sp. nov., *Onychostoma dongnaiensis* sp. nov., southeast Asia, Vietnam

Introduction

The first shovel-jaw cyprinid species, *Barbus gerlachi* Peter 1880, now assigned to the genus *Onychostoma* Günther 1896, was described from specimens collected in the Xi Jiang drainage in Wuzhou, Guangxi, southern China. *Onychostoma* is characterized by the lower lip being restricted only to the sides of the lower jaw, which bears a sharp cornified sheath on the cutting edge (Chen 1989, Shan *et al.* 2000). There are 20 valid species distributed in hill-streams in east and southeast Asia (Shan *et al.* 2000; Kottelat 2001a, b; Nguyen & Ngo 2001; Xin *et al.* 2009; Jang-Liaw & Chen 2013). Chen (1989) and Xin *et al.* (2009) divided members of *Onychostoma* into three groups based on mouth width, mouth-opening shape, and postlabial groove length. The narrow mouth group has a horse-shoe-shaped mouth opening with its width less than the corresponding head width and a long postlabial groove; this mouth type occurs in *Onychostoma barbatum* (Lin 1931), *O. elongatum* (Pellegrin and Chevey 1934), *O. lini* (Wu 1939), and *O. uniforme* (Mai 1978).

The moderate mouth group has an almost transverse mouth opening with its width equal to the corresponding head width and a short labial groove; this mouth type occurs in *O. angustiomata* (Fang 1940), *O. breve* (Wu and Chen in Wu *et al.* 1977), *O. daduense* (Ding 1994), *O. fangi* Kottelat 2000, *O. fusiforme* Kottelat 1998, *O. macrolepis* (Bleeker 1871), *O. meridionale* Kottelat 1998, *O. ovale* Pellegrin and Chevey 1936, *O. rarum* (Lin 1933), *O. simum* (Sauvage and Dabry de Thiersant 1874), and *O. virgulatum* Xin, Zhang and Cao 2009. The wide mouth group has a transverse mouth opening with its width greater than the corresponding head width and a very short labial groove; this mouth type occurs in *O. alticorpus* (Oshima 1920), *O. barbatulum* (Lin 1931), *O. gerlachi* (Peters 1880), *O. leptura* (Boulenger 1900), and *O. minnanensis* Jang-Liaw and Chen 2013 (Xin *et al.* 2009).