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Redescription of *Nemachilichthys rueppelli*, a senior synonym of *N. shimogensis* (Teleostei: Nemacheilidae)

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Abstract

The hill-stream loach genus *Nemachilichthys*, an endemic of the Western Ghats of India, comprises two nominal species, *N. rueppelli* and *N. shimogensis*. The validity of the latter has been questioned by several authors. Here we show that there is only a marginal raw mitochondrial genetic distance (0.5% in cytochrome oxidase subunit I and 1.2% in cytochrome b) between topotypic specimens of the two nominal species. Further, although population-level morphometric variations appear in a multivariate morphometric analysis, the two nominal species are morphologically similar, with apparently no significant characters separating them. We therefore consider *N. shimogensis* to be a junior synonym of *N. rueppelli* and redescribe the latter, providing further details on population variation and distribution.

Key words: Molecular distance, Discriminant Analysis, Hill stream loach, Western Ghats

Introduction

The Mongoose loach, *Cobitis rupelli*, was described by Sykes (1839) from the Beema river [=Bhima River] at Taimbournee [=Temburni] and Mota Mola [= Mula-Mutha River] near Poona [=Pune]. There are no known types for the species; however, a detailed description and illustration appear in Sykes (1841). Day (1878) established a new genus, *Nemachilichthys*, with *N. rueppelli* as its only member. The species was subsequently allocated to other genera, including *Noemacheilus* and *Nemacheilus* (Bănărescu & Nalbant 1968; Menon 1987; Talwar & Jhingran 1991), though currently assigned to *Nemachilichthys* (Bănărescu & Nalbant 1995; Kottelat 2012). The correct spelling of the species-name is *N. rueppelli* (see Discussion, below).

Narayan Rao (1920) described *Nemachilichthys shimogensis* from the Thunga River, Shimoga Town (Mysore), South India, a tributary of the Krishna River system, from which *N. rueppelli* too, was described. Narayan Rao (1920), however, did not distinguish *N. shimogensis* from *N. rueppelli*. While several authors considered *N. shimogensis* to be valid (Bănărescu & Nalbant 1995; Eschmeyer & Fricke 2015), others treated it as a junior synonym of *N. rueppelli* (Menon 1987; Talwar & Jhingran 1991). For his part, Kottelat (2012) noted: “*Nemachilichthys shimogensis* has long been listed as a synonym of *N. ruppelli*. It is treated as distinct by Bănărescu & Nalbant (1995: 448) but no proper comparison has been published. The figures in the respective original descriptions show some differences, but are not really conclusive since several figures in Sykes (1841) do not seem totally accurate. This can be solved only by examination of topotypes of both nominal species”.