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Molecular evidence for revalidation of synonyms *Systomus spilurus* and *Systomus timbiri* (Cyprinidae) as two separate species in Sri Lanka

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Systomus sarana (Pisces: Cyprinidae) is described from India and is believed to be widely distributed in the South Asian region including Sri Lanka. The taxonomic status of the species identified previously as *S. sarana* in Sri Lanka is ambiguous. There are two available names for this fish in Sri Lanka, i.e. *Systomus spilurus* and *Systomus timbiri* yet the affirmative use of these two names require validation through phylogenetic evidence. No previous molecular studies had been carried out for this species, therefore, the present study aimed to find molecular evidence through DNA barcoding to reveal *Systomus* diversity in Sri Lanka. Partial mitochondrial COI gene sequences were analysed from *S. sarana* like fishes from several geographic locations, and a sequence comparison was carried out to determine if the Sri Lankan specimens are identical to or different from Indian specimens. BLAST search did not yield any GenBank sequence with 100% similarity to the submitted Sri Lankan sequences suggesting that the Sri Lankan specimens cannot be similar to the Indian *S. sarana*. According to the derived molecular phylogenetic tree, the specimens from Sri Lanka were separated from Indian *S. sarana* with more than 98% bootstrap support and the Kimura 2-parameter (K2p) divergence levels ranging from 2.9% to 4.6% between them. This indicates that the species available in Sri Lanka is clearly a separate lineage from *S. sarana* (India). Furthermore, Sri Lankan specimens were clustered in to two clades with K2p ranging 2% - 2.2% divergence. The first clade (A) represented the specimens from Walawe River, Nilwala River, Kirindi Oya and Menik River, while the second clade (B) consisted of Kalu River, Kelani River and Gin River. Considering the type locality of *S. timbiri* (Walawe River), it can be suggested that the Clade A represents *S. timbiri*. Clade B is proposed to be the other species *S. spilurus*. The results of this study give molecular evidence for revalidating the names of *S. spilurus* and *S. timbiri* for the species that was long misnamed as *S. sarana*. Morphological comparison among relevant type specimens will be further needed to confirm this phylogenetic identification.

Keywords: Mitochondrial COI sequence, molecular divergence, phylogenetic tree, *Systomus sarana*

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