Short communication

First record of the tinfoil barb *Barbonymus schwanenfeldii* (Bleeker, 1853) (Cyprinidae) from the Wet Zone of Sri Lanka

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Received: 02.10.2025 Revised: 01.01.2026 Accepted: 15.01.2026 Online: 15.03.2026

Abstract: The Tinfoil Barb (*Barbonymus schwanenfeldii* Bleeker, 1853) is a cyprinid fish native to Southeast Asia that has established feral populations in several regions worldwide. In Sri Lanka, its known distribution has until now been restricted to the Mahaweli River basin in the dry zone. This study reports the first record of this species from the wet zone of the country, specifically from Mawak Oya, a tributary of the Kalu Ganga river basin. The species was initially recorded among artisanal fish catches from this area in October 2024. Interviews with local fishermen indicate that the species has been present in the area for approximately one year, and its introduction is most likely attributable to escapes from aquaculture facilities or the ornamental fish trade. Given its rapid breeding, ecological adaptability, and previously documented negative impacts on native fish assemblages, the establishment of *B. schwanenfeldii* in the wet zone of Sri Lanka raises serious concern for the region's rich endemic freshwater ichthyofauna. These findings underscore the urgent need for further studies on its current and potential distribution, ecological impacts, and the development of effective management strategies to mitigate the potential threats posed by this invasive species.

Keywords: Invasive species, wet zone, freshwater, endemism, Kalu Ganga

INTRODUCTION

The Tinfoil Barb (*Barbonymus schwanenfeldii* Bleeker, 1853; Family: Cyprinidae) is a species native to the Mekong and Chao Phraya river basins, which span Cambodia, Laos, Thailand, and Vietnam (Kottelat, 2001). This species is primarily omnivorous and detritivorous, consuming a variety of algae, moss, worms, small fish, and insects (Siaw-Yang, 1988; Desrita et al., 2021). It is also a fast-maturing species with high reproductive capacity (Isa et al., 2012) and is known to be a schooling fish, with adults reaching approximately 340 mm in standard length (Kottelat, 2001). Feral populations of this species have become established beyond its native range, including the southeastern United States, the Philippines, the Ivory Coast, and the Iberian Peninsula (Sudasinghe, 2016). To date, the known distribution of *B. schwanenfeldii* in Sri Lanka has been restricted to the Mahaweli River basin in the dry zone (Fig. 1) (Sudasinghe, 2016; Ramani Shirantha, 2021; Wijesinghe et al., 2024).

This study reports the first record of *B. schwanenfeldii* from the Kalu Ganga river basin in the wet zone of Sri Lanka, based on specimens observed in the freshwater fish catches from the Horana area of Kalutara District in October 2024. Field surveys conducted along Mawak Oya (6.7053°N, 80.1113°E), a tributary of the Kalu Ganga in Kalutara District (Fig. 2), recorded several schools of approximately 4–6 individuals, predominantly occupying the upper water column. One adult male specimen was collected (Fig. 3), photographed using a Canon 2000D DSLR camera with a Canon EF-S 18–55 mm lens, and preserved in 10% formalin for subsequent morphological examination. Species identification was confirmed using a standard field guide to the freshwater fishes of Sri Lanka (Ramani Shirantha, 2021). Morphometric measurements were obtained using digital vernier callipers accurate to 0.01 mm, and meristic counts followed Armbuster (2012); complete data are presented in Table 1. Interviews with local fishermen indicated that the species has

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been present in the area for approximately one year. The voucher specimen was deposited in the fish collection of the Department of Zoology, The Open University of Sri Lanka (catalogue no. ZBM1019).

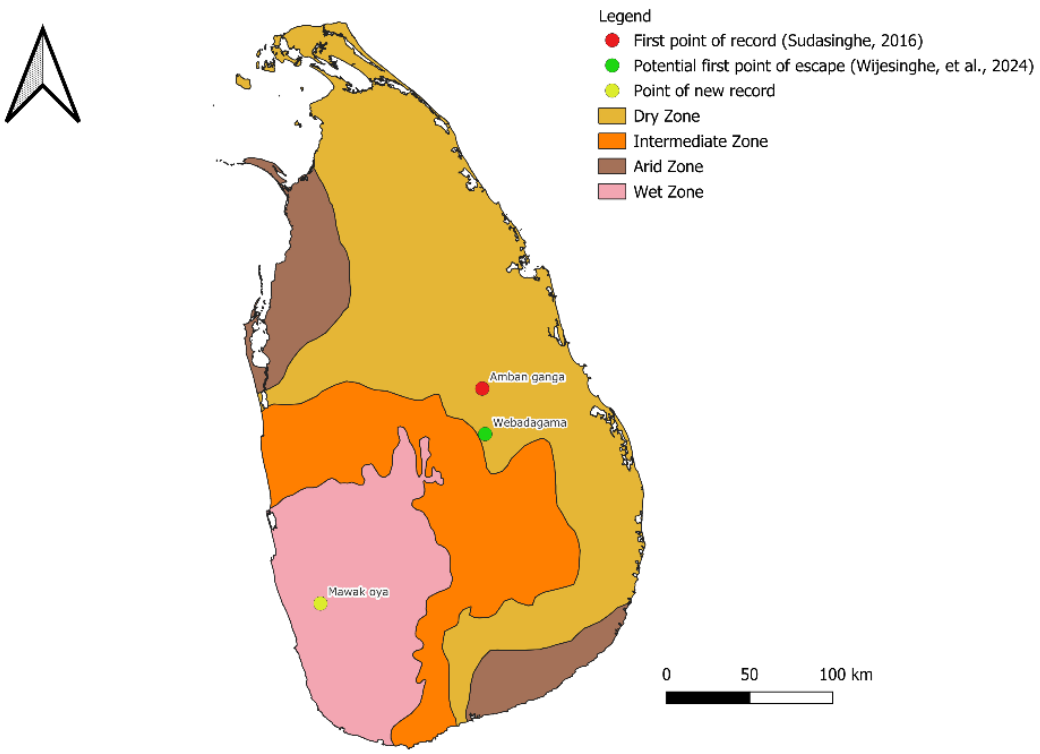

Fig 1. Known distribution of *Barbonymus schwanenfeldii* in Sri Lanka. The yellow circle indicates the new record locality (Mawak Oya, Kalu Ganga Basin); red circle indicates the first reported occurrence in the Mahaweli River Basin (Sudasinghe, 2016); green circle indicates the potential initial introduction site (Wijesinghe et al., 2024)

Fig 2. Site of record from Mawak Oya, Kalu Ganga river basin (6.7053°N, 80.1113°E)

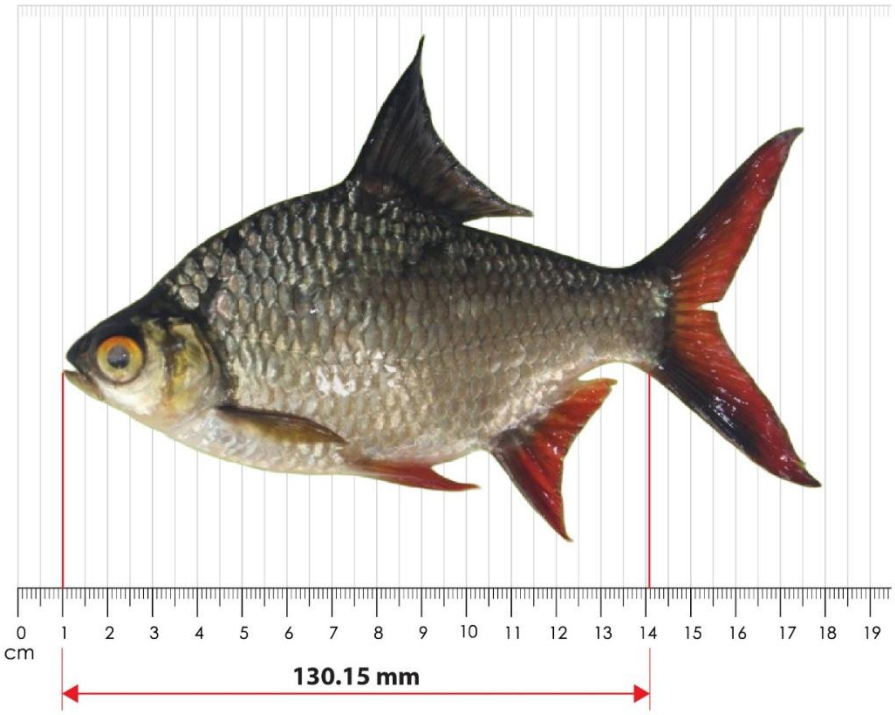

Fig 3. External morphology of *Barbonymus schwanenfeldii* specimen (ZBM1019) collected from Mawak Oya, Kalu Ganga River Basin, Sri Lanka

Table 1. Comparative morphometric and meristic data for *Barbonymus schwanenfeldii* specimens from Mawak Oya (ZBM1019, n = 1) and the Mahaweli River (DZ3155; Sudasinghe, 2016)

Characteristic	**Value**	**Reference**
Morphometric measurement	ZBM1019	DZ3155 (Sudasinghe, 2016)
Standard length (mm)	130.15	80.0
Percent of standard length (%)		
Predorsal length	47.2	55.9
Postdorsal length	52.8	55.7
Preanal length	75.2	71.9
Prepelvic length	49.6	51.8
Caudal-peduncle length	14.4	19.4
Caudal-peduncle depth	16.0	16.3
Body depth	50.4	47.7
Head length	26.4	28.9
Head depth	24.8	25.5
Percent of head length (%)		
Snout length	26.9	28.6
Eye diameter	33.4	34.2
Post-orbital head length	48.5	42.0
Inter-orbital width	45.7	42.5
Inter-narial width	24.2	22.6
Rostral barbel length	21.2	32.5
Maxillary-barbel length	33.4	42.9
Meristic counts		
Lateral line scales	33	34
Total transverse scales	½ 7 + 1 + 4 ½	½ 8 + 1 + 4 ½
Predorsal scales	12	11 ½
Prepelvic scales	13	15
Dorsal fin rays	III.9	III.8
Anal fin rays	III.6	III.6
Pelvic fin rays	I.8	I.8
Pectoral fin rays	I.13	I.13
Caudal fin rays	I.8.8.I	I.8.8.I

Barbonymus schwanenfeldii is believed to have been first introduced into Sri Lankan waters through aquarium releases (Sudasinghe, 2016), and escapes from aquaria continue to represent a primary pathway for the introduction of invasive species into the country's natural ecosystems (Epa et al., 2023). Based on the locality's geographical features and the widespread ornamental fish farming in the surrounding area, the species was likely introduced into natural waters via escapes from aquaculture facilities or private aquaria, most plausibly during flood events between 2016 and 2017.

A significant negative correlation has been demonstrated between the abundance of *B. schwanenfeldii* and native fish populations within its currently documented distribution range (Wijesinghe et al., 2024). Given the species' ecological versatility and adaptability, its establishment in the wet zone, a region characterised by exceptionally high levels of freshwater fish endemism (Pethiyagoda, 1994; Amarasinghe et al., 2006), poses a potentially serious threat to native ichthyofauna. Further studies are urgently needed to assess the extent and rate of its range expansion, and to develop effective management strategies to mitigate the impacts of this invasive species on native fish communities.

REFERENCES

Amarasinghe, U. S., R. R. A. R. Shirantha, & M. J. S. Wijeyaratne, 2006. Some aspects of ecology of endemic freshwater fishes of Sri Lanka. In: The Fauna of Sri Lanka: Status of Taxonomy, Research and Conservation (C. N. B. Bambaradeniya eds), pp. 113-124. The World Conservation Union, Sri Lanka and the Government of Sri Lanka.

Armbuster, J.W. 2012. Standardized measurements, landmarks, and meristic counts
for cypriniform fishes. Zootaxa 3568: 8-16. DOI: 10.11646/zootaxa.3586.1.3

Desrita, D., F. K. Hasugian, E. Yusni, V. R. Manurung, & R. Rambey 2021. Feeding habits of Tinfoil barb, Barbonymus schwenenfeldii in the Tasik River, South Labuhanbatu, North Sumatra, Indonesia. Biodiversitas Journal of Biological Diversity, 22(4): 2131-2135. DOI: 10.13057/biodiv/d220462

Epa, U. P. K., M. G. M. U. Piyathissa, S. D. A. E. Ranasinghe, Y. G. Ranasinghe, & R. M .K. J. Rathnayaka 2023. Invasion Risks of Aquarium Fish Trade to the Natural Environment in Sri Lanka. Journal of Fisheries and Environment, 47(1): 89-105.

Isa, M. M., A. S. M. S. Shahrul-Anuar & M. N. S. B. Muhammad-Adlan 2012. Population dynamics of tinfoil barb, *Barbonymus schwanenfeldii* (Bleeker, 1853) in Pedu Reservoir, Kedah. Population, 2(5): 55-70.

Kottelat, M. 2001. Fishes of Laos. WHT Publications, Colombo.

Pethiyagoda, R. 1994. Threats to the indigenous freshwater fishes of Sri Lanka and remarks on their conservation. In: Ecology and Conservation of Southeast Asian Marine and Freshwater Environments including Wetlands. (A. Sasekumar, N. Marshall & D. J. Macintosh eds), Developments in Hydrobiology, vol 98. Springer, Dordrecht. DOI: 10.1007/978-94-011-0958-1_19

Ramani Shirantha, R.R.A. 2021. A field guide to the fishes in freshwaters of Sri Lanka. Department of Wildlife Conservation, Colombo, XV+502 pp.

Siaw-Yang, Y. 1988. Food resource utilization partitioning of fifteen fish species at Bukit Merah Reservoir, Malaysia. Hydrobiologia, 157: 143–160. DOI: 10.1007/BF00006967

Sudasinghe, H. 2016. The problem of aquarium escapes: A new record of the tinfoil barb from sri lanka. Wildlanka, 4(1): 17-25.

Wijesinghe, M., I. V. D. Hemachandra, & P. N. Dayawansa 2024. Range Expansion of an Aquarium Escape: Tinfoil Barb (*Barbonymus schwanenfeldii*) in the Mahaweli River of Sri Lanka. In: Proceedings of International Forestry and Environment Symposium 28, University of Sri Jayawardenepura, Sri Lanka. DOI: 10.31357/fesympo.v28.6925