

**THE ROLE OF SELECTED ABIOTIC AND BIOTIC FACTORS IN CHANGING  
THE ABUNDANCE OF CRITICALLY ENDANGERED, POINT ENDEMIC  
*PETHIA BANDULA***

**J.C. Lenagala, V. Amarakoon\*, V. Gunasekara and P.N. Dayawansa**

*Department of Zoology and Environment Sciences, Faculty of Science, University of Colombo, Sri Lanka*

*\*vihanga.shylock@gmail.com*

Bandula barb (*Pethia bandula*) is a critically endangered and point-endemic freshwater fish species inhabiting a stream at Galapitamada (7.15801035°N, 80.23963686°E), Sri Lanka. However, our understanding of the habitat characteristics of this species is underdeveloped. The habitat characteristics can be defined by measuring the abiotic and biotic factors, which have the potential to influence the abundance of the species. Twenty-three points, 50 m from each other, were sampled. The abundance of the fish was determined by conducting bank counts within a one-square-meter area for ten minutes. Water temperature, pH, conductivity, light intensity, fractional green canopy cover, water flow, depth and turbidity were measured. In addition, the availability of aquatic plant *Cryptocoryan* sp. was determined. Statistical analysis was performed using R statistical software. The multiple linear regression analysis revealed that the pH, light intensity, and water temperature were significantly correlated with the abundance of *P. bandula*. While pH showed a positive correlation with *P. bandula* abundance, light intensity and water temperature showed a negative correlation. Fisher's exact test indicated that there was no relationship between the availability of *Cryptocoryan* sp. and the availability of *P. bandula*. Accordingly, moderately high pH, less light intensity and low water temperature appeared to be favoured by the *P. bandula*. The study outcomes can be used for the conservation of *P. bandula* and its restricted habitat in Sri Lanka.

**Keywords:** Abiotic and Biotic factors, *Pethia bandula*, Conservation, Critically endangered, Point Endemic