

Feeding ecology and length weight relationship of Indian glass barb *Laubuca laubuca* (Hamilton) at Maguru Oya stream, Sri Lanka

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The present study was conducted to investigate the feeding habit and length-weight relationship of Indian glass fish, *Laubuca laubuca* at Maguru Oya stream in Kurunegala District, Sri Lanka. Gut contents of fish were analyzed and the relative abundance of food items was calculated for three different length classes (1-3, 3-5 and >5cm). Niche breadth and food electivity of each length class was estimated using relative proportions of food items in the fish gut and the same in the environment.

The food items found in the gut contents of *L. laubuca* were divided into 16 main categories including blue green algae, green algae, euglenoids, golden brown algae, diatoms, filamentous algae, unidentified algae, protozoans, rotifers, cladocerans, diaptomus, cyclops, insect larvae, crustacean larvae, arachnid larvae and macrobenthos. According to Principal Component Analysis (PCA), three length classes of *L. laubuca* were separated into three clusters characterized by different food categories. Gut content of fish belonged to the highest length class (>5cm) was consisted of diatoms, protozoans, crustacean larvae, and macrobenthos. Gut content of fish belonged to 3-5cm length class was characterized by cyclops, insect larvae, and arachnid larvae while the same for fish within 1-3cm length class was characterized by unidentified algae, euglenoids, rotifers, cladocerans and diaptomus. The value of niche breadth decreased with increasing length classes as 2.07 ± 0.05 for 1-3cm, 2.05 ± 0.02 for 3-5cm and 1.88 ± 0.01 for >5cm.

Relative proportions of diatoms, protozoans, cyclops, crustacean larvae, arachnid larvae, and macrobenthos increased with increasing length of fish while blue green algae, green algae, euglenoids, golden brown algae, filamentous algae, unidentified algae, rotifers, cladocerans, and diaptomus decreased with increasing length of fish. The relative importance of insect larvae in diet of *L. laubuca* was constant in all length classes. *L. laubuca* could be considered as a planktivorous fish but the importance of macrobenthos in its diet increased with length of the fish. *L. laubuca* showed an isometric growth pattern and its length-weight relationship is given by the equation of $W = 0.0054 TL^{3.2096}$. The results of the present study could be used by fishery biologists and conservationists to initiate early management strategies and regulations to conserve *L. laubuca* in Sri Lanka.

Keywords: *Laubuca laubuca*, feeding habit, trophic nice breadth, food electivity