

## **Fatty acid profiles of Malabar sprat (*Ehirava fluviatilis*) from brackish water and fresh water habitats in Sri Lanka**

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Malabar sprat (*Ehirava fluviatilis*) is a small clupeid of marine origin found in marine, brackish water and freshwater habitats in Sri Lanka. This species is reported to be found in two inland reservoirs namely; Rajanganaya and Parakrama Samudra. The restricted distribution of this species in inland waters was hypothesized to be due to the species has to rely on food containing essential fatty acids. The main objective of this study was to investigate the fatty acid profiles of the flesh and the gut content of *E. fluviatilis* in relation to the two habitats. This study was conducted to cover the wet and dry seasons and the sampling was done in Bolgoda Lake and Rajanganaya reservoir. Bligh and Dyer method was used to extract the lipids and fatty acid profiles were analyzed by gas chromatography. The gut analysis was also performed from the sampled fish. The results showed that fatty acid C18:2 (n-4) was only recorded from the flesh of *E. fluviatilis*, from the Rajanganaya reservoir. The fatty acids C14:0, C15:0, C20:5 (n-3), C22:4 (n-6) and C22:5 (n-3) were predominant in fish collected from the Bolgoda Lake and C14:0, C16:1 (n-7), C16:2 (n-4), C18:1 (n-9), C18:1 (n-7), C22:5 (n-3) and C22:6 (n-3) were the predominant fatty acids recorded in fish sampled from the Rajanganaya reservoir. The guts analyses revealed that *E. fluviatilis* from both habitats had similar food preference having copepods, cladocerans and rotifers in their diets. High copepod abundance was also recorded from the Bolgoda Lake population. As such, it can be postulated from the results of the present study that *E. fluviatilis* obtains essential fatty acids from their food sources. The current study also revealed that C18:2 (n-4) would have been synthesised by *E. fluviatilis* population in Rajanganaya reservoir.

Keywords: Bolgoda Lake, clupeids, colonization, Rajanganaya, Sri Lanka

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