

RESEARCH PAPER

Habitat related variations and comparison of fatty acid composition of muscle and stomach contents of secondarily colonized Malabar Sprat (*Ehirava fluviatilis*) in Sri Lanka

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Email: zoousa@kln.ac.lk**ABSTRACT**

Ehirava fluviatilis is a marine origin clupeid found in Southern India and Sri Lanka, also found in two freshwater lakes, namely Parakarama Samudraya and Rajanganaya reservoir, and that places are identified as secondarily colonized habitats. The objectives of this study were carried to investigate the fatty acid (FA) profile in the flesh of *E. fluviatilis*, to investigate the FA profile in the food of *E. fluviatilis*, and identify the impact of the FA profiles for colonisation. The Bligh and Dyer extracting method was used to lipids extraction of flesh and stomach contents of *E. fluviatilis* and Gas Chromatography (GC) was used to identify the different types of FAs. Data were statistically analyzed to examine the differences in the quantities of different FAs using ANOVA and principal component analysis (PCA). The predominant FAs were recorded in two different habitats of *E. fluviatilis* in both flesh) and stomach contents. The only recorded difference between FAs profile was the presence of C 18:2 (n-4) in the Rajanganaya reservoir. The difference in the FA profile may lead to colonization of marine origin *E. fluviatilis* in Rajanganaya reservoir as a freshwater lacustrine habitat due to the ability of modification of FAs. Further, this study also indicates that the presence of specific FAs could be used as biomarkers to identify species.

KEYWORDS: Colonization, Rajanganaya reservoir, Bolgoda Lake, Sprat, Clupeid.**Introduction**

The Malabar sprat (*Ehirava fluviatilis*) found in Southern India and Sri Lanka (Whitehead, 1985), has a vast habitat and distribution as this species recorded in freshwater lacustrine, estuaries and

marine habitats. In addition, most of studies reveals that *E. fluviatilis* has secondarily colonized freshwater habitats in Sri Lanka, although *E. fluviatilis* has been recorded in two freshwater reservoirs, namely Rajanganaya reservoir and Parakarama

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