

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

Received 2 August 2019 | Accepted 26 September 2019 | Published online 30 September 2019

Citation: de Zoysa H.K.S., Amarasinghe U.S., Edirisinghe, E.M.R.K.B. & T.V. Sundarabharathy. 2019. Habitat related variations and comparison of fatty acid composition of muscle and stomach contents of secondarily colonized Malabar Sprat (*Ehirava fluviatilis*) in Sri Lanka. NeBIO 10(3): 152-163.

Acknowledgements

This research was funded by National Science Foundation (NSF) grant number NSF/SCH/2015/03 and Rajarata University Capital Grant grant numbers RJT/RP&HDC/2015/App./R/01 and RJT/RP&HDC/2016/FOAS/R/02. The authors would like to thank the Head of the Department of Physical Sciences and the Head of the Department Biological sciences at Faculty of Applied Sciences, Rajarata University of Sri Lanka for the facilities provided for carrying out the laboratory work and other analyses related to the study. Appreciation also extends to the technical support staff in laboratories and those who helped carry out the sampling. Also, we thank to K. Ukuwela and Viduranga Y. Waisundara for his invaluable comments on manuscript.

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NeBIO, *An International Journal of Environment and Biodiversity*

Official publication of North East Centre for Environmental Education (NECEER), Imphal | ISSN 2278-2281 (Online), 0976-3597 (Print) | www.nebio.in