

HEAVY METAL LEVELS IN TWO SPECIES OF FOOD FISH, *Etroplus suratensis* and *Mystus gulio* FROM BOLGODA LAKE, SRI LANKA

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Bolgoda lake, which is used by the local community for traditional fishery, is becoming increasingly polluted with chemicals especially heavy metals from various sources. In the present study, concentrations of lead, cadmium, chromium, copper and zinc in the muscle, liver and gills of two food fish, *Etroplus suratensis* and *Mystus gulio* collected from four main sites of Bolgoda lake viz. Weeras ganga, North lake, Bolgoda ela and South lake were determined by atomic absorption spectrometry.

Total metal levels in muscle tissue (in $\mu\text{g g}^{-1}$ dry weight) of the two species showed a wide range: lead 0.1-123.2, cadmium 0.04 -0.6, chromium 0.1-1.0, copper 0.2- 40.2, and zinc 14 - 47.3 in *E. suratensis* (n=60); lead 0.1-175.8, cadmium 0.01 -1.5, chromium 0.01-1.5, copper 0.9- 179, and zinc 24 - 86.7 in *M. gulio* (n=45). The levels of lead in the muscle of all *E. suratensis* sampled from Weeras ganga, 87% of *E. suratensis* from Bolgoda ela, 13% of *E. suratensis* from North lake and $\geq 13\%$ of *M. gulio* from Bolgoda ela & South lake exceeded the food safety limits specified by the international regulatory authorities whereas 13 % of *E. suratensis* from Weeras ganga & Bolgoda ela and 10% of *M. gulio* from Weeras ganga exceeded the safety limits specified for cadmium in food fish for human consumption. Comparison of the metal levels in the muscle, gills and liver tissues indicated that the highest accumulation of metals occurred in the liver tissue of both species of fish. Concentrations of metals in the fish collected from Weeras ganga and Bolgoda ela are comparatively higher than the respective levels in the fish from South lake except in few occasions. Inter species comparisons showed that accumulation of zinc in *M. gulio* was significantly higher than that in *E. suratensis*. The results emphasize that consumption of these fish from the Bolgoda lake could pose a health risk to the human due to accumulation of high levels of lead and cadmium in the fish tissues.