

**PRELIMINARY INVESTIGATION OF NATIVE  
AND INTRODUCED FAUNAL SPECIES IN TWO  
SELECTED MINOR TANKS OF UVA PROVINCE:  
CONSERVATIVE APPROACHES FOR LOCAL  
AQUATIC RESOURCES MANAGEMENT.**

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by

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## ABSTRACT

Present study was mainly aimed to identify the aquatic fauna and assess physico-chemical parameters of water in two minor tanks in Badulla district; namely Ballawidda Wewa (Giradurukotte) and Mapakada Wewa (Mahiyanganaya). Possible impacts of introduced species on natives were considered. Two sites were selected using secondary information and divided into five sub sites considering different habitats. Study was conducted for six months; July to December in 2016. Gill net, cast net and scoop net were used to catch fauna monthly. Twenty fish species (13 native, 7 introduced) including three endemics, four mollusc species and a crustacean species were recorded. Eight fish species were molecularly identified (16s rRNA) and Indian fish species was identified as most taxonomically related species with Sri Lankan species. The order Cypriniformes in family Cyprinidae was dominant with nine fish species including native and introduced fish. Shannon-Weiner Indices of native and introduced fish diversity in Ballawidda Wewa were 1.22 and 1.03 respectively, while 1.05 and 1.11 were recorded for native and introduced fish respectively in Mapakada Wewa. Strong negative relationship was indicated between the native and introduced fish diversity indices in both tanks; Ballawidda Wewa (-0.852) and Mapakada Wewa (-0.982) ( $p < 0.05$ ). It shows the possible impacts on native species by introduced, but a detailed habitat overlapping study is recommended. Environmental condition [Temperature (B:  $30.7 \pm 0.33$  °C, M:  $26.5 \pm 0.31$  °C), pH (B:  $8.25 \pm 0.15$ , M:  $8.26 \pm 0.12$ ), DO (B:  $10.04 \pm 0.31$ , M:  $10.04 \pm 0.63$ ), BOD (B,M: 3.42 mg/l), and chlorophyll-a (B:  $8.02 \pm 1.27$  mg/l, M:  $8.81 \pm 2.15$  mg/l)] with respect to physicochemical parameters of water has confirmed that the habitat characteristics in those tanks are well within the range recommended for survival and growth of fish species (DO:  $>6$  mg/l, pH: 6.0 – 8.5).

Key words: *minor tanks, aquatic faunal diversity, habitats quality, 16s rRNA*