

Population dynamics of five endemic fresh water fish species inhabiting two river basins in Sri Lanka

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ABSTRACT

Most of the endemic fresh water fish species of Sri Lanka are highly popular as ornamental fish. They are exported to more than 25 countries. The population dynamics of five endemic fish species inhabiting Kalu and Kelani river basins namely, *Belontia signata*, *Puntius cuningii*, *Puntius titteya*, *Puntius nigrofasciatus* and *Rasbora vaterifloris* were studied from October 1998 to September 1999. Sampling was carried out at monthly intervals in fifteen sites in each of the two river basins. The length frequency data were analyzed using FiSAT software package. The asymptotic lengths (L_{∞}) of *Puntius titteya* and *Belontia signata* were found to be higher in the Kelani river basin than in Kalu river basin while that of *Puntius cuningii* and *Puntius nigrofasciatus* were high in Kalu river basin than in Kelani river basin. The growth coefficients (K) of *Puntius titteya* and *Belontia signata* were greater than 2 year^{-1} while those of *Puntius cuningii* and *Puntius nigrofasciatus* were less than 1 year^{-1} in both river basins. However, the K values of *Puntius titteya* and *Belontia signata* were found to be higher in Kelani river basin than in the Kalu river basin. The results indicate that the production per biomass of these two species in Kelani river basin is higher than in Kalu river basin. The total mortality coefficient of these species were found to range from 0.82 year^{-1} in *Puntius nigrofasciatus* in Kelani river basin to 7.27 year^{-1} in *Puntius titteya* in the same river basin. These results indicate that there is a higher potential to harvest *Puntius titteya* and *Belontia signata* from Kelani river basin than from Kalu river basin.

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