

## Faunal invasions of riverine ecosystems in Sri Lanka: Remark to implement effective control measures to prevent range expansion of alien ichthyofauna

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As it has been reported that several alien invasive fish species have invaded the riverine habitats of Sri Lanka, a survey was conducted out from early 1999 to 2008 in selected river basins i.e., Attanagalu Oya, Kelani river, Diyawanna Oya, Bolgoda river and Kalu river with the objective of investigating distribution of alien fish species. Hitherto, a total of twelve alien fish species namely; *Gambusia affinis*, *Chitala ornata*, *Clarias batrachus*, *Helostoma temminckii*, *Oreochromis niloticus*, *Osphronemus goramy*, *Poecilia reticulata*, *Pterygoplichthys multiradiatus*, *Trichogaster pectoralis*, *T. trichopterus*, *Xiphophorus helleri* and *X. maculatus* were recorded from different riverine habitats especially in first peneplain of the island. Majority of them are small in size not exceeding 12 cm in total length. *P. reticulata* was the only alien fish species recorded in the 1<sup>st</sup> or 2<sup>nd</sup> order streams as well as in higher order streams. Uppermost streams of the Mahaweli river and Kelani river were considerably invaded by *P. reticulata*, *Xiphophorus helleri* and *G. affinis*. Since they were found to predominately feed on ephemeropterans, crustaceans and some other macro invertebrates but very rarely on mosquito larvae they possibly pose threats to aquatic biodiversity in streams. Some streams and reservoirs in the Knuckle mountain region were invaded by a prolific carnivorous fish species *C. batrachus* and a herbivorous fish species *P. multiradiatus*. Their feeding habits and behavioural patterns cause severe threats to ecosystem functioning. However, population sizes and ranges of occurrence of other alien fish species recorded in the river basins were not so prolific (< 1 individual/m<sup>3</sup>) so that hitherto, they do not pose significant threats to aquatic biodiversity.

*C. ornata* is colonized in Kalu river, Bolgoda river and Diyawanna river of Sri Lanka. Since its first record on the occurrence in 1994 at Diyawanna Oya, its range expansion occurred into three inter-connecting adjacent river basins. As it feeds voraciously on fish, further range expansion might lead to diminish endemic ichthyofaunal diversity in Sri Lankan streams. Therefore, it is extremely necessary to immediately adopt effective measures to prevent range expansion of alien ichthyofauna in riverine habitats of Sri Lanka.