

Captive Breeding and Larval Rearing of *Labeo lankae*, *Systemus spilurus*; Critically Endangered and Endemic Freshwater Food Fish Species in Sri Lanka

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Sri Lanka supports a rich freshwater fish assemblage that comprises 97 species including 61 endemics. Other than these indigenous species, 24 exotic species have been introduced to the island mainly to boost the inland fishery. Endemic and native fish stocks are heavily affected by heavy fishing pressure, habitat destruction, climatic factors and introduction of those exotics. Among the native and endemic species *Labeo lankae*, *Labeo heladiva*, *Tor kudree*, *Systemus spilurus*, *Walago attu*, *Ompock bimaculatus*, stocks are heavily affected and sufficient scientific data are unavailable for conservational efforts. Present study was aimed at re-establishing stocks of those fish species to control the population declining. One of the objectives of the study was to develop and optimize protocol for captive breeding and larval rearing of *L. lankae*, *L. heladiva*, *T. kudree*, *S. spilurus*, *W. attu* and *O. bimaculatus*. Broodstock fish collected from different locations were transported to Aquaculture development centers at Dambulla and Ginigathena. During acclimatization and growing, formulated fish feeds (42% crude protein) were provided but *carnivorous W. attu* was fed with trash fish. Matured *L. lankae* fish were selected and induced breeding was performed using sGnRH α + Domperidone at the rate of 0.5 ml per kg body weight for females and 0.2 ml per kg body weight for males. Then, they were kept in a hatchery jar for spawning. Similar procedure was used for *S. spilurus*, but in cement tanks. After a latency period of 10 hours, *L. lankae* spawned non-adhesive floating eggs, and after 30 h of embryonic development, hatching was completed. *S. spilurus* spawned adhesive sinking eggs after a latency period of 7 h and 45 min and hatching were completed after 16 h. Feeding commenced from 24 h and 60 h respectively for each species, first with egg yolk, then artemia followed by formulated feed. More than 70% of larval survival was reported under this feeding regime. In conclusion, we here report the first evidence of successful captive breeding and larval rearing of critically endangered and endemic freshwater fish spp. in Sri Lanka; *L. lankae* and *S. spiluru*.

Keywords: *Captive Breeding, Endemic Fish, GnRH, Labeo lankae, Systemus spilurus*