

**DETERMINATION OF A SUITABLE BREEDING
SUBSTRATE FOR BREEDING REDSIDE BARB
(*Puntius bimaculatus*) IN CAPTIVE CONDITION**

GODE KANKANAMGE YASASVI WAJIRAMALA

Aquatic Resources Technology Degree Program

Department of Animal Science

Faculty of Animal Science and Export Agriculture

Uva Wellassa University

2017

Abstract

Redside barb (*Puntius bimaculatus*) is one of the most popular indigenous ornamental fish species which commonly found in Sri Lanka. This species has been heavily collected from wild for the aquarium trade. Anthropogenic activities make a critical impact on narrowing down their habitats and it leads to reduce abundance of their existing population. Development of captive breeding and larval rearing techniques is found as an effective strategy to increase commercially available stocks which will lead to ensure the sustainable utilization as a valuable resource. Hence, the objective of this study was to determine the best substrate for successful breeding of Redside barb in captivity. Three types of breeding conditions; gravels with aquatic plants, sand with aquatic plants and only aquatic plants were provided with still water in 60 cm x 30 cm x 30 cm size indoor glass tanks. Fish were introduced into tanks in 2:1 male to female ratio per each tank. Complete randomized design was used as the experimental design and produced fry number was counted & analyzed using one way ANOVA. Spawning was observed in all conditions and fry number was varied significantly among three different substrates ($P < 0.05$). The highest mean fry numbers was observed in gravel with aquatic plants (195 ± 20) compared to sand with aquatic plants (77 ± 39) and only aquatic plants (33 ± 33). The best breeding substrate for the Redside barb in indoor glass tanks was identified as the gravel bottom with aquatic plants condition. Therefore, the results obtained in this study can be used for further development of breeding performance of the Redside barb under captive condition.