

## **Reproductive ability and substrate preference of cherry barb (*Puntius titteya*) under the conditions of the Ornamental Fish Breeding Center, Rambodagalla**

**W.W.K.S. Gunawardana<sup>1\*</sup>, M.A.J.P. Munasinghe<sup>1</sup> and A.R. Mudalige<sup>2</sup>**

<sup>1</sup>*Department of Livestock Production, Sabaragamuwa University of Sri Lanka.*

<sup>2</sup>*Ornamental Fish Breeding and Training Center, Rambodagalla, Sri Lanka.*

Cherry barb (*Puntius titteya*) is found in shaded shallow streams and rivulets in Sri Lanka, has a high demand in the export aquarium fish trade and is a highly threatened endemic fish species. Over collection of this fish for exporting has resulted in their extinction from natural habitats. Therefore, captive breeding is vital to sustain the trade as well as to conserve their natural population. In this study several attempts were taken to breed cherry barb in captivity, under the water quality conditions of the Ornamental Fish Breeding and Training Center, Rambodagalla. Wild caught fish were acclimatized for three weeks in the center and after sex differentiation, males and females were kept separately. Experiments were carried out in three stages and for the stage I experiments, different breeding environments were provided using gravel, aquatic plants, coconut coir, silt and bottom mesh as substrates in indoor glass tanks, with 1:1 and 2:1 male to female ratio. In stage II experiments, a breeding environment similar to their natural environment was provided with community breeding in indoor glass and cement tanks. Stage III experiments were carried out in glass tanks by using gravel with aquatic plants and coconut coir with aquatic plants substrates. During the experimental period tank environment was monitored for water quality parameters of pH, temperature, ammonia, nitrite and water hardness.

The results showed that *P. titteya* can be successfully bred in the conditions of the Ornamental Fish Breeding and Training Center at Rambodagalla with non-flowing hard water. Imitated natural conditions, gravel with aquatic plant and coconut coir with aquatic plant substrates, gave successful results in stage II and III experiments in indoor cement and glass tanks. The results of these captive breeding experiments can be used successfully for conservation of *Puntius titteya* in the future.

**Keywords:** *Puntius titteya* (Cherry barb), captive breeding, conservation, reproduction

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\*Corresponding author e-mail: [wwkanchi@gmail.com](mailto:wwkanchi@gmail.com)