Induced Breeding Using GnRH and Larval Rearing of Stinging Catfish *(Heteropneustes Fossilis*) on Formulated Feeds Containing Phytogenic Feed Additives

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Abstract

The Sri Lankan Stinging catfish (*Heteropneustes fossillis*) or *Hunga* is one of the most popular underutilized, cannibalistic, highly nutritious indigenous species. Due to the inadequacy of information on reproduction, breeding and larval rearing, Stinging Catfish has not introduced to the Sri Lankan aquaculture industry yet. Therefore, this research is focused to examine the possibility of induced breeding using GnRh and larval rearing of Stinging Catfish with phytogenic feed additives to develop the culture practice. Four matured (2 males and 2 females) fish were selected as brooders and females were artificially induced using GnRh (0.5 ml/kg for female) and sperms were obtained by crushed testis. The fertilized eggs hatched out within 24-28 hrs. After yolk sac absorption, live feeds (*Artemia* and *Daphnia*) were given for 4 days as feed for larvae. Then the larvae were fed with 3 formulated diets namely T1 (Moringa–*Moringa oleifera* added), T2 (*Mukunuwenna*–*Alternanthera sessilis* added) and T3 (the control) at two hour intervals throughout the day for three weeks. Specific growth rate, weight gain and survival rate were significantly higher (<0.05) in larvae fed phytogenic additives added formulated diets (T1 and T2) compared to Control treatment. The rate of survival, specific growth rate, and weight gain for T1, T2 and T3 were, 89.267%, 89.467%, 63.800%, 3.88%, 3.76%, 3.46%, and 260 mg, 250 mg, 163.43 mg respectively. Cannibalistic fish need nutritionally balanced food in bulk quantity during their early larval stages for uniform growth in the population. In conclusion, the GnRh can be successfully employed for induced breeding of Stinging Catfish fish and frequent feeding of Moringa added formulated feed found to be suitable for enhancing growth as well as minimizing cannibalism.

Keywords: *Alternanthera sessilis*, GnRh, *Heteropneustes fossillis*, *Moringa oleifera*, cannibalism

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