



Growth performance and survival of a freshwater ornamental fish, *Amatitlania nigrofasciata* (Zebra cichlid) fed on a commercial diet and an experimental diet

Radampola, K., Batuwita, S.S.S., Karunasagara, J.D.K. and Samarasekara, K.M.

Department of Fisheries & Aquaculture, Faculty of Fisheries & Marine Sciences & Technology, University of Ruhuna, Matara, Sri Lanka.

✉ kumudu@fish.ruh.ac.lk

Ornamental (*Amatitlania nigrofasciata*) fish farming is a fast growing enterprise in Sri Lanka. Many small scale farmers are engaged in culturing various ornamental fish species. In aquarium industry in Sri Lanka, fish farmers use commercial feeds available in the market to feed their fish. Although it is well known that nutritional requirements of fish is varied among different species, aquarium owners or fish farmers have to depend on very few commercial fish feeds available in the market. These commercial diets may not provide the optimum nutritional requirements for a particular species and therefore growth performance of fish may not reach to the optimum level. Ultimately this will cause an economic loss to a farmer.

Zebra cichlid is a popular freshwater ornamental fish species in Sri Lanka. A 12 week feeding trial was conducted to investigate the effect of Prima diet, a commercial diet used in aquariums, and a formulated diet on the growth performance of Zebra cichlid. Triplicate group of juveniles were stocked in 6 indoor glass aquaria (30×22×8.5 cm), at a density of 10 fish tank⁻¹. Fish were fed *ad libitum*, three times daily and food consumption was recorded daily. Total length and body weight were measured at two week intervals.

Mean total length (cm) of juveniles were 4.55 ± 0.18 and 4.33 ± 0.15 and mean total body weights (g) were 1.98 ± 0.34 and 1.71 ± 0.16 for the formulated diet and the commercial diet respectively. Percentage survival was 90% for both treatments. Percentage Specific Growth rate (%SGR) of 2.35 ± 0.36 and 2.80 ± 0.15 and Food Conversion Ratio (FCR) of 2.45 ± 0.46 and 1.92 ± 0.17 were observed for the Formulated diet and Prima diet respectively. Student's T test was performed to analyze the data statistically. Fish fed on the Formulated diet had significantly high food consumption (11.24 ± 0.47) (as % Body weight per day) compared to the fish fed on Prima diet (7.85 ± 0.76). Although, fish fed on Formulated diet showed higher length, weight, and SGR compared to the fish fed on Prima diet, those were not significantly different from each other.