Color Enhancement in Rosy Barb (*Puntius conchonius*) Through Dietry Incorporation of Cockscomb (*Celosia aregentia* var. *cristata*) Extract.

Sanna Bashir[*1], Anayitullah chesti[1], Mansoor Rather[2], Sabina[1], Ashwani Kumar[2], Gohar B. Wani[3], Bilal Ahmad Bhat[4], Masood-ul-Hassan Balkhi[5] and Misbah Mushtaq[1].*

[1]Division of Aquaculture, Faculty of Fisheries, SKUAST-K.

[2]Division of Fish Nutrition and Biochemistry, Faculty of Fisheries, SKUAST-K.

[3]Division of Fishery Engineering, Faculty of Fisheries, SKUAST-K.

[4]Division of Social Sciences, Faculty of Fisheries, SKUAST-K.

[5]Division of Aquatic Environmental Management, Faculty of Fisheries, SKUAST-K.

***Corresponding email: khajawalsannabash@gmail.com**

ABSTRACT

Ornamental fishes are often valued for their coloration. Carotenoids are mainly responsible for the coloration in fish. It is now well established that the color of ornamental fish can be modified by supplementing carotenoids through feed. In fish unavailability of carotenoids prevalent in aquarium tanks with no natural food results in dull coloration hence reducing its market value. Rosy barb is an important indigenous ornamental fish species of India, which has established well in the Kashmir region with high ornamental potential. So, the present study aims to evaluate the effect of cockscomb (*Celosia aregentia* var. *cristata*) extract on the muscle pigmentation of Rosy barb, *Puntius conchonius*. A group of 240 fishes of uniform size and age were subjected to three treatments T_1 (0.5%), T_2 (1.0%) and T_3 (1.5%) mixed with basal feed and a control (basal feed) group with no extract were reared for a period of 60 days. It was observed that the muscle pigmentation (coloration) increased with increasing cockscomb extract with T_3 showing the highest (9.58±0.13) followed by T_2 (7.25±0.09) and then T_1 (4.97±0.08) which were significantly higher than that of control group (2.3±0.13). At the end of the experiment, the carotenoid content in the muscle fed with dietary supplements were higher than those of the control group ($P < 0.05$). So, it can be inferred that the dietary incorporation of cockscomb extract significantly improves the muscle pigmentation of rosy barb in captivity.

Keywords: Ornamental, Pigmentation, Carotenoids, Rosy barb, Cockscomb.