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Reproductive performances and condition factor of Rosy Barb, *Pethiya conchonius* (Hamilton, 1822) fed with diets supplemented with medicinal plant materials

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The use of medicinal plants to enhance the reproductive and growth performance is now receiving much attention in the aquaculture industry. Present study ascertained the effects of supplemented diets with three medicinal plants, i.e., *Moringa oleifera, Cardiospermum halicacabum* and *Asparagus racemosus* on the reproductive and condition of the Rosy barb, *Pethiya conchonius* (previous name *Puntius conchonius*). Three treatment groups, i.e. T_1 (70% control diet + 30% *M. oleifera*), T_2 (70% control diet + 30% C. *halicacabum*), T_3 (70% control diet + 30% A. *racemosus*), and a control group (diet without medicinal plants) were used each with three replicates, including separate tanks to grow males and females. Eight Rosy barb fingerlings (mean weight, 1.3553 ± 0.4188 g and mean length 3.8190 ± 0.4527 cm) were randomly assigned to each tank, and were fed with the assigned diet *ad-lib* twice a day over a three month period. The length and weight of the fish were measured once in two weeks to calculate the condition factor. Separately, the fish were bred after they reached maturity, and four breeding events were followed. The number of eggs spawned by fish at each event were counted, and fecundity was determined by gavimetric method. The fish fed with *M. oleifera* supplemented diet showed the highest mean fecundity (46.69 ± 7.26) among all groups. Number of eggs spawned per female fish was the highest (65.67 ± 20.69) in T_1 treatment tank and significantly different ($p<0.05$) from the control while control diet recorded the lowest number (19.50 ± 22.55). Condition factor was significantly different ($p<0.05$) in fish tested with different diets, having the highest value in T_1 treatment group (2.31 ± 0.47) and the lowest value (1.58 ± 0.46) in T_3 treatment group. It can be concluded that *P. conchonius* fed with *Moringa oleifera* supplemented diet showed comparatively higher fecundity and enhanced condition factor.

Keywords: Condition factor, fecundity, *Puntius conchonius*, spawning

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