Development of a Low Cost Method for Breeding Paracheirodon innesi (Neon Tetra) in Captivity.

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The Tetras are one of the most popular groups of fishes that are kept in modern aquaria. The neon tetra, Paracheirodon innesi, is one of the most popular tetras in the world and they are the second highest fish imported to the U.S both in numbers of individuals and total value, second only to the Guppy, Poecillia reticulate. The production of neon tetra in Sri Lanka is inadequate to fulfill the demand in export market since efforts of aquarists in breeding them has failed in most instances. Commercial breeding is done successfully in other countries but breeding in small scale has also reported not successful. Water pH is recognized as the main factor affecting on neon tetra breeding and artificially acidified fresh water is recommended. Pairs of brood fish have routinely spawned in acidified, soft water at 25 ^{0}C (pH, 5.5—6.5, adjusted with phosphoric acid; total alkalinity, 3.2 mg 1-1 and total hardness, 6.0 mg I-I , as CaC03). Water was also conditioned with humic acids (0.04%). Water acidification is not a cost effective method for Sri Lanka and this study attempted to find an alternative low cost method to breed neon tetra in captivity. Twenty one glass aquarium tanks were settled inside the hatchery and rain water, river water and well water were used separately for the experiment. Temperature and the pH of water in each tank were recorded daily using a pH meter (EcoScan pH 5). Four sides of the tanks were covered with black polythene papers to control the light further. Brooders were introduced to the tanks (pair per tank) and after 24 hours the tanks were observed for the eggs. Brooders were removed from the tanks and 2 ppm methylene blue was added. Fry were started to feed with paramecium culture and fry were transferred to cement tanks after 10 days. Collected data were analyzed with Pearson Chi-Squire Test using Minitab 14 statistical package. The pH of rain water, river water and well water during the period of study were 6.2± 0.05, 8.0±0.04 and 7.5±0.05 respectively. Spawning and hatching were only observed in tanks filled with rain water. After the tetras were transferred to the cement tank, there was a 5% of reduction of the population. The results of the study has shown that the rain water has a significant effect ($P<0.05$) on the breeding of neon tetra. The reported rearing pH of the neon tetra is 6.9 — 7.4 and the breeding pH of the neon tetra is 5.5 — 6.5. The tropical rain forests in South American countries where neon tetra originated also have low pH level, low light condition and moderate temperature. These findings are directly compatible with the recent findings about the neon tetra breeding. Breeding of neon tetra with rain water is possible in aquarium condition. Use of rain water is a low cost method to breed neon tetra rather than using expensive chemicals.

Key words: Paracheirodon innesi, Breeding, Rain water