

SOME ASPECTS OF BREEDING OF THE WILD AND NEON STRAINS OF GUPPY (*Poecilia reticulata*)

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Thirty neon guppy (*Poecilia reticulata*) from an aquarium in Kalutara and thirty wild guppy collected from a nearby drain were reared separately. Their F2 offspring fry were reared in separate tanks from birth (Day 1). They were sexed on Day 21, and the respective males and females of each strain were separately reared. On Day 60, three pairs of males and females from the two strains were identified. Each pair (3 wild and 3 neon pairs) was reared in a separate tank. Males were removed from these tanks on Day 7 and were never reintroduced and the females were monitored for 3 successive pregnancies. The offsprings were removed from the respective tanks on Day 1. The length of pregnancy in females, the fry size and the male: female ratios of the offspring were monitored in the two strains. The age at maturity of male fish was measured by the development of the gonopodium.

The mean pregnancy period was found to be shorter in the wild strain (21 days) compared with the neon strain (30 days). The males of the wild strain reached sexual maturity earlier (21-35 days) compared with the males of the neon strain (28-50 days). However, the wild strain produced a lesser number of fry compared with the neon strain (mean fry size of 32 and 37, respectively). Despite the smaller fry size per pregnancy, it appears that the wild strain propagates faster when compared with the neon strain. This may reflect an effort by the wild strain to enhance its propagation efficiency in an artificial environment. It was evident that the semen from the first mating could be stored within the female guppy since both strains produced two subsequent fry without males being present.

The male: female ratios of the first pregnancy in the wild and ornamental strains were 3:1 and 2:1, respectively. However in both strains, the ratio reduced to 1:1 in the third pregnancy. This shows that the initial natural selection process favours males over females. As the male guppy is colourful and therefore has a more demand compared with the females, development of a method to produce more male guppy would enhance the income generated from guppy farming.