Detection of *Megalocytivirus* in Guppy (*Poecilia reticulata*) in the Western, North-Western and Central Provinces of Sri Lanka

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The genus Megalocytivirus of the family *Iridoviridae* are double stranded DNA viruses that affect a broad range of fish species including freshwater ornamental fish. Megalocytiviral infections are a significant threat to the ornamental fish industry in South-East Asia, causing serious economic losses. Infected fish show non-specific clinical signs making early diagnosis difficult. Sri Lanka shares 3-4% of the global demand for ornamental fish. However, the occurrence of megalocytivirus infection in guppies, a major ornamental fish species cultured in Sri Lanka for the export market is largely unknown. The objective of this study was to detect the presence of megalocytivirus in guppy fish (*Poecilia reticulata*) collected from major ornamental fish producing areas of the country. A total of 57 samples of guppy (10 fish per sample, one sample per variety from each farm) were collected by visiting thirty ornamental fish farms located in the Western (WP), North-Western (NWP) and Central (CP) provinces. From each fish sample (n=10), a pooled gill tissue sample was prepared by obtaining gill clips from each fish. Total DNA was extracted using a commercial DNA extraction kit. The presence of megalocytivirus was detected by a nested polymerase chain reaction (PCR) that amplifies the major capsid gene of the virus. A total of 13 [28% (7/25)-WP; 16.67% (4/24)-NWP; 10.52% (2/19)-CP] guppy samples were found to be PCR positive for megalocytivirus. The highest occurrence of the virus was observed in guppy collected from the WP. This study confirms the presence of megalocytivirus among apparently healthy guppies cultured in Sri Lanka. Free movement of megalocytivirus-infected fish could lead to the introduction of the virus to megalocytivirus free areas. Further studies are required to elucidate the local epidemiology of megalocytivirus infection in guppy and other ornamental fish. Effective preventive strategies should be developed to minimize further spread of the disease.

Keywords: Megalocytivirus, Guppy (*Poecilia reticulata)*, Ornamental fish, Ornamental fish industry

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