

Factors Effecting Density of an Invasive Alien Mollusc, *Pomacea diffusa* – Golden Apple Snail in Dalugama and JA Ela Areas in Western Province, Sri Lanka

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Invasive Alien Species-IAS has been identified one of the major threats to the Sri Lankan bio diversity. Among them, *Pomacea diffusa* is one of the aquatic molluscan invaders, which was introduced to Sri Lanka during 1980s by animal pet trade.

In the present study, physico-chemical factors, water depth and some of the biological factors which could affect to the growth and density of *P. diffusa* were studied from July – December 2006 in four selected streams in Ja-Ela (sites A and B) and Dalugama (sites C and D).

Water temperature, pH, dissolved oxygen, biological oxygen demand (BOD₅), total suspended solids (TSS), soil organic matter (SOM) and water level were not significantly different among sites (Oneway ANOVA, $p > 0.05$). Water conductivity was significantly higher in site A. However, significant differences were recorded for SOM, number of freshly laid egg-masses and height to the highest fresh egg-mass from the water surface ($p < 0.05$) between Ja-Ela and Dalugama sites (Student t-test, $p < 0.05$).

A significant relationship was observed between the number of freshly laid egg masses and the snail abundance ($p < 0.05$). Density of *P. diffusa* snails in site A is significantly higher than the other three sites. A significant relationship was also observed between the snail abundance and rainfall in the same site. Though all the growth stages of *P. diffusa* was observed in sites at Ja Ela some growth stages were not observed in sites at Dalugama. Snails may enter with water flow, from some other invaded streams, which are connected to the inspected streams at Dalugama.

Poecilia reticulata (Guppy) was the only co-occurring fish species recorded from the study sites, which is another invasive alien species. An ant *Tapinoma* sp. was recorded in site A, which predate on fresh egg-masses of *P. diffusa*.