

**ABUNDANCE AND DISTRIBUTION OF A PHYTOPHAGOUS BEETLE
ON SALVINIA IN TANKS OF MEDAWACHCHIYA DIVISIONAL
SECRETARIAT, SRI LANKA**

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Salvinia (*Salvinia molesta*), is a cosmopolitan aquatic weed, causing severe environmental problems to tank cascade systems of Sri Lanka. Classical biological control of this weed has been attempted, introducing *Cyrtobagous salviniae*. However, these noxious weeds are expanding their habitat to newer areas especially, in the north central province of Sri Lanka. Paucity of data on the occurrence of this weed and phytophagous beetle is one of key problems in implementing the biological control programme. Therefore, the present study was conducted in tank cascade system of Medawachchiya area during March to July, 2015, to investigate the abundance and distribution of *S. molesta* and *C. salviniae*, using quadrat sampling method. Mean density (m_x , insects per feet²) and Index of dispersion (I_D) were used to examine the beetle distribution, while intraspecific mean crowding (m_x^*) was calculated to describe the aggregation pattern of the beetle. A total of 1449 *C. salviniae* were found in 28 tanks located in the sampling area. The abundance of *C. salviniae* was significantly different ($p < 0.05$) among the tanks, showing highest beetle density (10 ± 3.20) in Kadawathrambawa and the lowest (0.9 ± 0.88) in Periyakulama. The index of dispersion was significantly different ($p < 0.05$) among the tanks, which was greater than unity in 15 tanks tested. The intraspecific mean crowding ($m_x^* = 0.230$) was lowest in Dutuwewa and highest ($m_x^* = 0.900$) in Kadawathrambawa wewa. Four tanks namely, Medawachchiya, Dutuwewa, Muslim halmilla wewa and Kadawathrambawa were severely invaded by *S. molesta*, covering more than 60% of the surface of each tank. Further, the beetle abundance showed a significant variation ($\chi^2 = 68.183$, $df = 15$, $p < 0.001$) with the percentage distribution of *S. molesta* in each tank. This study reveals that the tanks in Medawachchiya Divisional Secretariat needed more attention in future inoculative releasing programmes of bio-control agents.

Keywords: Biological control, *Cyrtobagous salviniae*, Invasive weeds, *Salvinia molesta*