

Larvivorous Efficacy of Selected Fish Species in Controlling *Anopheles* Mosquito Larvae in Mahaoya, Ampara in Sri Lanka

G A S M Ganehiarachchi and L D Amarasinghe*

Department of Zoology, University of Kelaniya, Sri Lanka, *deepika@kln.ac.lk

Twelve larvivorous fish species namely *Acanthocobitis urophthalmus*, *Aplocheilus dayi*, *Belontia signata*, *Danio malabaricus*, *Poecilia reticulata*, *Puntius titteya*, *Puntius filamentosus*, *Puntius vittatus*, *Rasbora daniconius*, *Oreochromis niloticus*, *Trichogaster pectoralis* and *Trichogaster trichopterus* were tested for their efficacy in controlling *Anopheles* larvae in three replicated experiments in non choice condition in the laboratory in March 2011. Experiment I: Fourth instar larvae of *Anopheles* mosquitoes were introduced to a pair of fish from each species in a glass tank measuring 45 cm x 30 cm x 30 cm dimension half filled with aged tap water. Number of larvae alive was recorded at 30 min intervals for 150 min. Experiment II: Larvivorous efficacy was tested by repeating the experiment I, using only selected fish species. Experiment III: Larvivorous efficacy of selected fish species was tested in controlling *A. culicifacies* mosquito larvae as the method described for experiment I but adding natural stream water to maintain the fish. Larvivorous efficacy of potential three fish species were used in choice condition in the field situation in Mahaoya, Ampara in Sri Lanka from July 2011 to December 2011. Field experiments were conducted at two streams namely Mahaoya and Panajjawa oya and two lakes namely, Bubula lake and Wagaspitiya lake in Ampara district of Sri Lanka. Laboratory experiments revealed that *Belontia signata*, *Poecilia reticulata*, *Rasbora daniconius*, *Aplocheilus dayi*, *Trichogaster pectoralis* and *Trichogaster trichopterus* are the most effective among the tested species against *Anopheles* larvae. *Poecilia reticulata* showed the highest larvivorous efficacy in field situation followed by *Rasbora daniconius* and *Aplocheilus dayi*. However, introduction of *Poecilia reticulata* and *Aplocheilus dayi* is not effective in places where *Rasbora daniconius* is present in nature.

Acknowledgment: Financial support from GFATM project – round 8 phase 1 Grant No. SRL-809-G12-M