

Functional Mortality of *Anopheles stephensi*, the Urban Malaria Vector as Induced by the Sublethal Exposure to Deltamethrin

Authors : P. Aarumugam, N. Krishnamoorthy, K. Gunasekaran

Abstract : The mosquitoes with loss of minimum three legs especially the hind legs have the negative impact on the survival hood of mosquitoes. Three days old unfed adult female laboratory strain was selected in each generation against sublethal dosages (0.004%, 0.005%, 0.007% and 0.01%) of deltamethrin upto 40 generations. Impregnated papers with acetone were used for control. Every fourth generation, survived mosquitoes were observed for functional mortality. Hind legs lost were significantly ($P < 0.05$) higher in treated than the controls up to generation 24, thereafter no significant lost. In contrary, no significant forelegs lost among exposed mosquitoes. Middle legs lost were also not significant in the exposed mosquitoes except first generation (F1). The field strain (Chennai) did not show any significant loss of legs (fore or mid or hind) compared to the control. The selection pressure on mosquito population influences strong natural selection to develop various adaptive mechanisms.

Keywords : *Anopheles stephensi*, deltamethrin, functional mortality, synthetic pyrethroids

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