

ASSOCIATION BETWEEN MALARIA VECTORS AND CLIMATIC FACTORS IN A MALARIA ENDEMIC REGION OF SOUTHERN SRI LANKA.

Knowledge on the species composition of anopheline fauna and specific environmental factors that correlate with the density of potential vectors would be useful for malaria control, particularly vector control. Monthly collections of anopheline mosquitoes were made using four standard sampling techniques Cattle Baited Traps (CBT), Cattle Baited Huts (CBH), Pyrethrum Spray Sheet Collection (PSC) and Larval Collection (LC) from March 1998 to December 1999. A total of 88217 anophelines representing 13 species were collected. Indoor resting *An. culicifacies* abundance was significantly correlated with total monthly rainfall of the current month ($r=0.432$; $p=0.045$) and number of days rained during the current and past months ($r=0.633$; $p=0.002$ and $r=0.487$; $p=0.025$). Densities of outdoor resting anophelines as measured by CBT were significantly correlated with the number of days rained for in the past 1-2 months for all anophelines ($r=0.446$; $p=0.042$ and $r=0.660$; $p=0.002$) and for current and past month for *An. subpictus* ($r=0.643$; $p=0.001$ and $r=0.468$; $p=0.032$). The number of days rained in the current and past month significantly correlated with anopheline densities as measured by CBH ($r=0.476$; $p=0.025$ and $r=0.581$; $p=0.006$ for all anophelines: $r=0.458$; $p=0.032$ and $r=0.504$; $p=0.020$ for *An. subpictus*) while outdoor resting densities of *An. culicifacies* significantly correlated with the number of days rained during the current month ($r=0.448$, $p=0.036$). Relative humidity in current month was significantly correlated with indoor resting density of *An. culicifacies* ($r=0.440$; $p=0.041$). Outdoor resting density of all anophelines as measured by CBT were significantly correlated with maximum temperature ($r=-0.439$, $p=0.041$). The relative humidity during the past month was significantly correlated with all anopheline densities as measured by

CBH ($r=0.472$; $p=0.031$). Larval densities of all anophelines, and *An. culicifacies* were significantly correlated with monthly rainfall during the current month ($r=0.522$; $p=0.013$ and $r=0.447$; $p=0.037$, respectively). Larval densities of all anophelines and *An. culicifacies* were significantly correlated with the number of days rained during the current and past month ($r=0.674$; $p=0.001$ and $r=0.572$; $p=0.007$ for all anophelines and $r=0.622$; $p=0.002$ and $r=0.452$; $p=0.040$ for *An. culicifacies*). Larval densities of anophelines were significantly correlated with maximum temperature ($r=-0.474$; $p=0.026$).