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Dynamics of the filarial vector *Culex quinquefasciatus*, the vector of *Wuchereria bancrofti*, in Polhena, Matara.

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Bancroftian filariasis is one of the major vector-borne diseases in Sri Lanka. Therefore, this study was mainly focused on finding out the dynamics of the indoor-resting filarial vector, *Culex quinquefasciatus*, to understand the present status of filariasis in Polhena, Matara. Under the vector dynamics the density of the vector, the effect of housing conditions on their density and their infection and infectivity rates were studied. The entomological collections of morning indoor-resting mosquitoes were carried out biweekly from late November 2002 to late March 2003 in the study site. Eight mosquito species were recorded in the collections and *C. quinquefasciatus* females showed the highest abundance (80%). The population density of the vector varied throughout the study period between a minimum of 8.00 and a maximum of 44.80 *C. quinquefasciatus* per man-hour (mean = 17.52). This variation showed a significant relationship ($P < 0.05$) with the rainfall received to the area. The density of the vector within the study period showed a significant increase ($P < 0.05$) when compared with the year 1992. Also there is a statistically significant relationship between housing conditions and the vector abundance ($P < 0.05$). Among collected mosquitoes, *C. quinquefasciatus* females were dissected to investigate the presence of life cycle stages of *Wuchereria bancrofti*, the parasite of bancroftian filariasis. These data were used to calculate the infection and infectivity rates of the vector in Polhena. Infection of *C. quinquefasciatus* with *W. bancrofti* continued throughout the study period and the infection rate varied between 2% - 15%. Infective mosquitoes were found occasionally. Therefore, the infectivity rate is a discontinued one (recorded only in late November – 0.89% and late February – 3.80%). A highly significant reduction in the infection rate ($P < 0.01$) and a significant reduction in the infectivity rate ($P < 0.05$) has resulted in Polhena when compared with the rates (infection and infectivity) in year 1992. This may be due to the Mass Drug Administrations (MDAs) that operated in the area from year 1999.