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Studies on entomological parameters in a typical malaria endemic area in Sri Lanka

Entomological parameters of malaria transmission were studied in 6 contiguous villages in Kataragama, a typical malaria endemic area of southern Sri Lanka. Sampling was carried out from August 2000 to April 2001 using five standard entomological techniques, namely, Cattle baited net and hut collections (CBNC & CBHC), human bait night collections (HBNC), Pyrethrum spray sheet collections (PSC), and larval collections. Out of the eleven anopheline species identified, *An.hyrcanus group* (49.3%), *An. Vagus* (24.5%). *An. Subpictus* (9.3%) and *An. Culicifacies* (6.0%) were most prevalent during the study period.

The average man-biting rate (MBR) of anophelines was 2.26man/night. *An. Culicifacies*, *An. tessallatus*, *An. Vagus* and *An. Annularis* had higher MBR and *An. Culicifacies* and *An .tessallatus* were more anthrophophilic than others. *An. Culicifacies* had higher MBR than other anophelines. *An. Subpicutus* and *An. Culicifacies* showed higher indoor resting rates (IRR) of 0.44 and 0.15 mosquitoes/ room respectively. Peak biting of *An. Culicifacies* occurred between 21:00 – 22:00hrs. During the 9 month period, the MBR and IRR of most anophelines was dependent on their density. However, in *An. Culicifacies* it appeared to be independent. The main breeding of the secondary vectors were rock pools and appeared to be independent. The main breeding sites of *An. Culicifacies* were rock pools and river margins where as higher larval densities of the secondary vectors were temporary ground water collections. The density of some anophelines significantly correlated with the rainfall. Fluctuations of densities of immature and mature forms of *An. Culicifacies* were associated with the malaria incidence and all these findings indicated the role of anophelines including *An. Culicifacies* in transmission of malaria in Kataragama.