

STUDIES ON THE EPIDEMIOLOGY OF MALARIA AT WEHERAGALA IN
POLONNARUWA DISTRICT-PRELIMINARY OBSERVATIONS

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A study on the immuno-epidemiology of malaria at Weheragala in the Polonnaruwa district, attempts to correlate antibody responses to specific epitopes of the antigens of Plasmodium falciparum and P.vivax with entomological parameters and clinical protection. Malaria morbidity figures for the period January 1988 to April 1990 in the Aralaganwila region was obtained from the anti-malaria unit of the Rural hospital, Aralaganwila. The results show that 25% of the patients who seek treatment at the Aralaganwila Hospital outpatient clinic had malaria. The percentage of P.falciparum infections, determined from hospital blood films, which was 9% in 1988 had declined to 3% in 1990. Monthly malaria incidence for the above period was also compared with the monthly rainfall data of the same period for the area. The incidence of malaria was high in May and June when there was poor rainfall in 1989 and 1990.

Weheragala, situated 5Km from Aralaganwila town was selected for more detailed studies. This village is a government cashew plantation with a population of 400 persons. A sample of 124 persons were subject to clinical examination 60% were anaemic and had palpable spleens. 40% had palpable liver. Thick and thin blood films were prepared and examined for malaria parasites after Giemsa staining. 25 out of 124 films were positive and 60% of these were identified as P.falciparum. The higher Pf:Pv ratio at Weheragala may reflected site specific variation or increased persistence of P. falciparum gametocytes and indicate the importance of detailed micro-epidemiological studies.

Monthly entomological investigations were carried out at Weheragala using methods such as indoor and outdoor human bait collection, indoor resting collection and window trapping. An. annularis was the dominating species in the collections with An. culicifacies accounting for 5-8% of the total catch. The presence of An. culicifacies in the observed numbers can lead to effective transmission of malaria.

Sera collected at the site are being tested against defined epitopes in P.falciparum and P.vivax antigens, to try and monitor malaria transmission more accurately and to correlate specific antibody responses to the epitopes with protection against malaria.