



Anopheline breeding in river bed pools below major dams in Sri Lanka

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Abstract

Anopheline mosquito larval surveys were carried out from September 2000 to August 2002 in Mahaweli and Kelani river beds, below five major dams in the wet and intermediate zones of Sri Lanka, to study the prevalence of anopheline species in these areas. In each study site, all permanent and semi permanent pools were surveyed fortnightly by dipping at 6 dips/m² surface area of water. Larvae were collected in separate containers, staged and identified at their third and fourth stages. During each survey, the surface area and depth of pools were recorded and each reading was considered as an individual observation.

River bed pools below the dams contained stagnant clean water with a little or no aquatic vegetation. The majority of pools were $\leq 1 \text{ m}^2$ in surface area and $\leq 75 \text{ cm}$ in depth. Anopheline mosquito breeding was seen throughout the year in each study site. The average percentage of pools positive for anopheline larvae, the number of larvae per 100 pools and 100 dips were 14.85%, 32.34 and 9.29, respectively. Thirteen anopheline species, including 10 potential vectors, namely, *An. barbirostris*, *An. culicifacies*, *An. jamesii*, *An. maculatus*, *An. nigerrimus*, *An. peditaeniatus*, *An. subpictus*, *An. tessellatus*, *An. vagus* and *An. varana* were found breeding in the river bed pools.

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1. Introduction

In Sri Lanka, 22 anopheline species have been recorded (Amerasinghe, 1992). Of these, 13 have been shown to support the sporogonic cycle of human malaria

in the laboratory, and are thus considered as “potential vectors” of malaria in the country (Herath et al., 1983; Subramaniam, 1985; Konradson et al., 2000). However, *An. culicifacies* is still considered the principal vector of malaria while *An. annularis*, *An. subpictus* and *An. tessellatus* have been recorded as vectors of local importance (Mendis et al., 1990; Amerasinghe et al., 1992; Ramasamy et al., 1992).

In Sri Lanka, *An. culicifacies* primarily breeds in stream and river bed pools and margins. It has also been

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