

Some characteristics of the larval breeding sites of *Anopheles culicifacies* species B and E in Sri Lanka

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Abstract

Background & objectives: *Anopheles culicifacies* Giles, the major malaria vector in Sri Lanka, exists as a species complex comprising two sympatric sibling species-species B and E. Species E is reported to be the major vector of *Plasmodium vivax* and *P. falciparum* parasites in Sri Lanka, whilst species B is a poor or nonvector as in India. Knowledge of the breeding habits of the two sibling species can help in designing optimal vector control strategies. Hence, a survey was conducted in Sri Lanka to study the preferential breeding habitats of *An. culicifacies* species B and E. **Methods:** Immature forms of *An. culicifacies* were collected from identified breeding sites in malarious districts. Collected larvae were typed for their sibling species status based on mitotic Y-chromosome structure. Data was analysed using Statistical Package for Social Science version 10.0. **Results:** *An. culicifacies* immature forms were found in 23 collection sites. Among these samples 19 were found to have species E and four to have species B. All species B larvae were collected from Tonigala village in the Puttalam district. None of the 23 sites was found to have both species B and E. Species E, the major vector of malaria, appears to breed in variety of breeding sites which can be of an indication of its adaptive variation to exploit breeding sites with varying limnological characteristics. **Interpretation & conclusion:** The present findings have to be taken into account when formulating more effective larval control measures. They also show the need for a detailed study of possible different preferences for larval breeding sites between species B and E.

Author keywords

An. culicifacies; Breeding habitats; Larval control; Malaria; Species B & E; Sri Lanka

Indexed keywords

EMTREE medical terms: *Anopheles*; *anopheles culicifacies*; article; breeding; controlled study; health survey; larva; malaria; mitosis; mitosis rate; nonhuman; parasite vector; species difference; Sri Lanka

MeSH: Animals; *Anopheles*; Breeding; Environment; Insect Vectors; Malaria; Sri Lanka

Medline is the source for the MeSH terms of this document.