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Some observations on abundance and breeding habitats of *Anopheles* sp. in Trincomalee, Sri Lanka

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Malaria is one of the most serious vector-borne diseases affecting millions of people in the world annually. More than 90% of the deaths, resulting from malaria occurred particularly in children aged 1-5 years. Despite the huge burden and the absence of an effective vaccine, few tools are available to control malaria. Malaria is transmitted by *Anopheles* mosquitoes. The abundance of *Anopheles* mosquitoes was not studied in some parts of the island, especially in North and East areas over 30 years because of the ethnic conflict. The main aim of this study was to explore the habitat range and distribution of Anopheline species in the Trincomalee district.

Five hundred and seventy one *Anopheles* larvae were collected from different breeding sites in 5 areas (Sirajnagar, Hatharaela, Paraipanchankulam, Indiwewa and Uppuweli) in Trincomalee district in March 2010 using standard larval collection techniques. These areas were situated about 10 km apart from each other. Collected mosquito larvae were transferred to the laboratory and reared. Emerged adult *Anopheles* mosquitoes were identified using taxonomic keys. Nine anopheline species were recorded: *Anopheles culicifacies* 6% (32/571), *An. subpictus* 25% (145/571), *An. vagus* 23% (134/571), *An. peditaeniatus 5%* (28/571), *An. nigerrimus* 35% (200/571), *An. barbirostris 2%* (14/571), *An. jemesi* 1% (7/571), *An. pallidus* 0.3% (2/571) *and An. varuna* 0.3% (2/571). Overall, *Anopheles nigerrimus, An. subpictus* and *An. Vagus* were the most prevalent, and *An. culicifacies, An. peditaeniatus, An. barbirostris, An. jemesi, An. varuna* and *An. pallidus* were the least prevalent species. Paddy fields, burrow pits, field channels, ponds, irrigation channels, edges of tanks, mud pools and marshy lands were the main breeding sites of *Anopheles* mosquitoes in selected areas in Trincomalee district. The presence of some Anopheline mosquitoes which can act as potential malaria vectors may cause malaria epidemics in these areas.

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