
Habitat Diversity and Coexistence of Mosquito Larvae in Kalutara District, Sri Lanka

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Mosquitoes can breed in variety of aquatic environments. Different types of breeding habitats and their properties influence the coexistence and the occurrence of different mosquito species. However, knowledge on mosquito breeding site preference is important for planning effective mosquito control strategies. The purpose of the present study was to identify coexisting mosquito species in different aquatic habitats available in Kalutara district. The study was conducted in 13 Medical Officer of Health areas in Kalutara District. Larval survey was carried out in every two months of the study period from January 2019 to August 2020. Dipping and pipetting methods and well net was used to collect mosquito larvae. All collected larvae were observed under the compound microscope and identify up to the species level using available taxonomic keys. According to the results in different aquatic habitats 67 forms of coexistence could be observed among mosquito larvae. The coexistence of five species (*Anopheles tessellatus*, *A. elegans*, *Culex tritaeniorhynchus*, *C. brevipalpis* and *Heizmania* sp.) were observed in a stone pond in Gokarawala in Walallawita area. Two species, *Aedes albopictus* and *Armigeres subalbatus* were the frequently observed coexisting species throughout the study period All of them were found in ephemeral collections of water. Normally *Aedes aegypti* breeds in artificial container habitats and *Ae. albopictus* breeds in natural container habitats. But *Ae. aegypti* and *Ae. albopictus* were observed as the coexisting species seven times. Similarly, *C. quinquefasciatus* breeds in polluted water and dengue vector mosquitoes breed in clean water. But *C. quinquefasciatus* coexisted with both *Ae. aegypti* and *Ae. albopictus*. *C. tritaeniorhynchus* and *C. gelidus* also coexisted in ground pools and channels in Panadura area. Mosquito larvae coexistence also could be observed with predatory mosquito larvae. To get more information on habitat diversity of mosquito larvae further study should be done to identify the parameters that determine the selection of breeding sites by female mosquitoes.

Keywords: Breeding places, Coexisting Mosquito species, Kalutara district, Predatory mosquito larvae, Vector mosquitoes,