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Ovipositional behaviour of Culex quinquefasciatus to skatole and straw infusion in a site specific study in Sri Lanka

Oviposition in mosquitoes is mediated by physical and chemical cues. The role of chemicals in the selection of ovipositional site has been studied with the aim of designing traps for surveys and pest management programmes. Gravid females *Culex quinquefasciatus* Say is attracted by chemicals from leaf infusions, polluted water and an oviposition pheromone. Skatole or 3-methlyindole is one the major component of grass infusion which acts as an ovipositional site cue. Previous field studies on various ovipositional chemical cues were conducted in Africa. The aim of the present study was to test the effectiveness of skatole and leaf infusion in two possible breeding sites: pit latrine and drinking well (unused with organic matter) and a non breeding site (at lest 15 m away from the latrine and well and near a building) in the Eastern University premises. A preliminary study was also conducted to screen the effectiveness of locally available leaf material and to test the optimal concentration and days of fermentation of the straw which elicited the highest ovipositional response.

Only one species *C.quinquefasciatus* oviposited. In the preliminary study paddy straw infusion elicited the highest number of egg laying response than the other types of leaf infusion tested: mango (*Mangefera indica*), *Cycas spp*, paddy straw (*Oriza sativa*) and wild Gardenia (*Gardenia latifolia*) ($F_{2,74}=11.47$, $p<0.001$). Further tests on straw infusion indicated that the ovipositional response was highest for 8 days of fermentation than 2, 4 and 6 ($F_{3,95}=9.72$, $p<0.001$). 100% concentration was the most effective in eliciting ovipositional response ($F_{4,279}=48.8$, $p<0.001$). Ovipositional response was higher in the possible breeding sites: latrine and drinking well than the non-breeding site ($F_{2,575}=3.72$, $p=0.024$). Skatole and straw infusion had a synergistic effect than when individually tested. In conclusion, it could be said that skatole and straw infusion can be used in designing traps for either surveys or pest management for *C.quinquefasciatus*; the recommended sites are the latrines and wells in a domestic condition.