ABSTRACT

Although several evidences support the existence of behavioral responses of insecticides by malaria vectors worldwide, no standardized test method has yet been available. This study attempts to standardize the test system using an improved excito-repellency test chamber, as described by Chareonviriyaphap (1999), by defining the relationships between number of escaping and various variables using laboratory colony of Anopheles minimus mosquitoes. Those variables include biological conditions of mosquitoes i.e. nutritional and physiological states of mosquitoes, and environmental factors such as times of test, temperature and humidity against 3 compounds. Results indicated that variables tested influents the test results differently as described herein.

There was statistically significant in escaping when times of test were compared ($P<0.05$). Test performed in the morning is recommended due to a consistency of test results. Responses to insecticides by young mosquitoes are higher than the old ones. However, there was no statistically different in escape pattern between young and old female mosquitoes. No statictical significance was found in escape pattern under various temperature and humidity tested from all 3 compounds ($P>0.05$). Obvious responses to DDT and 2 synthetic pyrethroids by mosquitoes were observed when unfed mosquitoes were compared to the others, sugar fed, early blood fed, late blood fed and gravid ($P<0.05$). We conclude that both biological conditions of mosquitoes and environmental factors effect the test results. Therefore, careful and intentional monitoring should be aware. Datails are included herein.