

# REPELLENT AND INSECTICIDAL EFFECT OF SELECTED HERBAL EXTRACTS AGAINST ADULT ANOPHELES TESSELLATUS THEOBALD, 1901

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## ***Abstract***

Mosquitoes are responsible for the transmission of many kinds of vector bone diseases such as Dengue, Malaria, Lymphatic filariasis and Japanese encephalitis, yellow fever, and other forms of encephalitis. Among these kinds of diseases, Malaria is the most devastating disease for many centuries and causes many deaths annually. In Sri Lanka, Malaria is transmitted by Anopheles species primarily and secondary. Other than disease transmission mosquitoes can cause painful bites. So, we must improve personal protection to prevent their being bitten. The present study has investigated the repellents and insecticidal activities of five herbal extracts in Sri Lanka namely *Calotropis gigantea* L., *Tagetes erecta* L., *Lantana camara* L., *Vitex negundo* L., and *Cinnamomum zeylanicum* L. against secondary Malaria vector species of *Anopheles tessellatus* using WHO standard susceptibility test kit for adult mosquitoes. Methanolic five-leaf extracts were evaluated by using ten unfed 2-5 days adult female mosquitoes of *A. tessellatus*. The contact irritancy assay was done for the investigation of percentage repellency and the toxicity assay was done for the investigation of percentage mortality using three concentrations (1000ppm, 2500ppm, 5000ppm) and each concentration carried out three replicates. The diluted MeOH was used as control test. The *C. zeylanicum* was recorded with the highest percentage mortality (5000ppm; 100.00±0.00) after 24 hours exposure period; and the highest percentage repellency (5000ppm; 100.00±0.00) after 1 hour exposure period. *Tagetes erecta* was recorded potential percentage mortality (5000ppm; 83.33±3.33) and potential percentage repellency (5000ppm; 55.67±12.67). *Calotropis gigantea* were recorded lowest percentage mortality and lowest percentage repellency for all concentrations. In conclusion *C. zeylanicum* acted as best repellent and insecticidal extract among selected extracts against *An. tessellatus*. According to findings of this experiment, suggest doing some investigation of chemical compounds which may affect for repellent and insecticidal activity of selected extracts in future.

***Keywords:*** *Anopheles tessellatus, Percentage mortality, Percentage repellency*