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PRELIMINARY STUDY ON THE LARVICIDAL ACTIVITY OF *Acalypha indica* STEM EXTRACTS ON SECOND INSTAR LARVAE OF *Aedes aegypti.*

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ABSTRACT

Mosquito-borne diseases have become a rising major concern in many countries in the tropics and subtropics. Sri Lanka has been endemic for many mosquito-borne diseases including dengue which is transmitted by *Aedes aegypti*. *Acalypha indica* has been well known for its medicinal values. Even though there are studies carried out to determine the other properties of its leaf extracts, there is little known about the stems extracts of this plant. The current study investigated the larvicidal potential of *A. indica* stem extracts. The stem extracts were prepared using Soxhelt extraction followed by rotary evaporation. Hexane, ethyl-acetate and methanol were used as solvents. The larvicidal activity of the *A. indica* stem extracts was investigated by treating the second instar larvae of *Aedes aegypti* mosquitoes (10 per replicate) at different concentration levels and exposing them for 24 hours. The concentration series were selected after a few rounds of testing and the selected concentrations for crude extracts from the solvents were 5,6,7,8 ppm for hexane; 10,20,30,40 ppm for ethyl-acetate and methanol respectively. The total average mortality percentage was calculated for each solvent extract from the observed mortality after 24 hours. The calculated total average mortality percentages are; hexane 78.33%, ethyl-acetate 69.16%, methanol 70.83% and for the all three solvents 72.77%. The findings of this study are important considering the controlling of *Aedes aegypti* mosquito vectors. Similar studies on other vectors can lead this to develop a new vector control larvicide which is environmental friendly and financially tolerable.

Keywords: *Acalypha indica*, *Aedes aegypti*, Larvicidal activity, Plant extracts, Vector control