

## عنوان مقاله:

INVESTIGATIONS ON THE OVIPOSITION DETERRENCE AND OVICIDAL POTENTIAL OF THE LEAF EXTRACTS OF ARGEMONE MEXICANA AGAINST AN INDIAN STRAIN OF DENGUE VECTOR, AEDES AEGYPTI (DIPTERA: CULICIDAE)

## محل انتشار:

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## خلاصه مقاله:

Current study was conducted to evaluate the oviposition deterrent and ovicidal potential of *A. mexicana* extracts against laboratory-reared *A. aegypti*. The leaf extracts of *A. mexicana* were prepared in five different solvents selected based on their polarity; petroleum ether, hexane, benzene, acetone and ethanol. The studies concluded that the deterrence potential of all the leaf extracts gradually increased with increasing concentrations revealing a positive correlation between the two. The results showed the maximum oviposition deterrent potential of the petroleum ether extracts against *A. aegypti* with 31% effective deterrence at 200 ppm which rose by 66% at 400 ppm. The hexane leaf extract was found to be the least effective deterrent amongst the other extracts displaying an ED<sub>50</sub> range of 61.5% to 2.68%. Exposure of freshly laid eggs of *A. aegypti* with different leaf extracts for 24 h resulted in a significant increase in the ovicidal potential of each extract with increasing concentration. Remarkably, the acetone leaf extract of *A. mexicana* was found to exhibit the highest ovicidal potential against *A. aegypti* with a significantly reduced egg hatch of 27.32% when exposed to 400 ppm extract as compared to control treatment; this extract causing the lowest percent hatch of 18.35% at 1000 ppm which was 0.1-2.1 folds lesser than that obtained with other leaf extracts. The petroleum ether and benzene leaf extracts were also found to show noticeable ovicidal efficacy while the remaining leaf extracts were found to be poor ovicidal agents as they were not significantly effective even at higher concentrations. Our results clearly indicate the appreciable oviposition deterrence and ovicidal potential of various extracts prepared from the leaves of *A. mexicana* against *A. aegypti*. However, the mechanism causing these impacts is still not known and needs to be explored.

## کلمات کلیدی:

Argemone, oviposition deterrence, ovicidal, oviposition activity index, egg hatchability, effective deterrence

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