

Larvicidal and pupacidal efficacy of leaf ethanolic extract of *Lantana camara* L. against the dengue vector *Aedes aegypti*.

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Abstract

Mosquitoes are the prominent vectors of human diseases viz., malaria, yellow fever, Dengue, filariasis, Japanese encephalitis including Zika. Among the different genus of mosquitoes, individuals of genus *Aedes* are considered highly dangerous because these show more dependency on human blood and breed in artificial containers. *Ae. aegypti* is the potential vector of dengue, yellow fever including Zika. Various plant based products are less environmental hazard and biodegradable alternatives to synthetic chemicals for use against mosquitoes. This study aimed to evaluate larvicidal and pupacidal efficacy of leaf ethanolic extract of *L. camara* L. against the dengue vector *Ae. aegypti*. The *L. camara* L. leaves were collected from PyinOoLwin District and the leaves were shade dried, powdered and extracted by using ethanol. For larvicidal and pupacidal tests, among them 25 late third and early fourth instars of *Ae. aegypti* larvae and 25 pupae were exposed to various concentration and the larvae mortality were observed after 24 hrs, 48 hrs exposure and pupae mortality was observed after 48 hrs exposure. Each test concentration was repeated to 6 times in each experiment. Results indicated that larvicidal efficacy of ethanolic extract of *L. camara* L. leaves against *Ae. aegypti*, LC₅₀ and LC₉₀ values were 335 ppm, 1718 ppm after 24 hrs exposure and 277 ppm, 1692 ppm after 48 hrs exposure respectively. In the pupacidal test, the mortalities were showed 8%, 13.33 %, 18.67 % and 22.67 % with leaf ethanolic extract of *L. camara* L. at 1500 ppm, 2000 ppm, 2500 ppm and 3000 ppm after 48hrs exposure respectively. The study indicated that the leaf ethanolic extract of this plant showed the larvicidal and pupacidal properties.