

NATURAL LARVICIDES OF BOTANICAL ORIGIN AGAINST DENGUE VECTOR *Aedes aegypti* (DIPTERA: CULICIDAE)

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Abstract. Products of plant origin, with antimosquito potential are now considered as advantageous alternatives to conventional synthetic chemicals for management of mosquito vectors. The present study was, therefore, carried out to investigate botanical products extracted from eighteen indigenous plants as larvicidal agents against the dengue vector, *Aedes aegypti*. All plant materials were extracted with ethanol and provided yields ranging from 1.90% to 28.31% (w/w), whereas three plant species, namely, *Alpinia conchigera*, *Homalomena aromatica* and *Litsea petiolata*, produced liquid oils with yield of 0.19%, 0.20% and 2.63% (v/w), respectively. A discriminating dosage (200 mg/l) prepared from essential oil or ethanolic extract of each plant species was screened individually for larvicidal activity against early 4th instars of *Ae. aegypti*, resulting in five plant extracts with promising larvicidal potential (42-100% mortality). A dose-response larvicidal bioassay against *Ae. aegypti* established the essential oil of *L. petiolata* leaf as being the most effective, exhibiting an LC₅₀ (50% lethal concentration) of 28.32 mg/l, while the ethanolic extract had an LC₅₀ of 187.60 mg/l. This study demonstrates the promising potential of plant products, particularly of *L. petiolata* oil, in research and development of new natural larvicidal compounds for controlling *Ae. aegypti*.

Keywords: *Aedes aegypti*, *Alpinia conchigera*, *Homalomena aromatica*, *Litsea petiolata*, essential oil, ethanolic extract, larvicide

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