ABSTRACT

INFLUENCE OF Vitex trifolia L. LEAF EXTRACTS ON LARVA DEVELOPMENT OF Aedes aegypti INTO ADULT

By

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WHO has reported Dengue has become one of fastest growing mosquito-borne disease and their control depends largely on preventive measures against mosquito vectors. Aedes aegypti is the main Dengue vector. The natural insecticides such as plant derived compounds are generally pest specific, biodegradable and harmless to the environment. Phytochemicals constituents from leaf extracts of Vitex trifolia include terpenoid, flavonoid, and alkaloid can act as insect growth regulators. This research aimed to investigate the adults emergence inhibition of ethanol extracts from leaves of Vitex trifolia against Aedes aegypti larva.

The period of the research was from June to December 2012. Insect growth regulators activity of Vitex trifolia leaf extract was carried out using WHO protocol, third instar larvae are used for testing. At the end of the observation period, the impact is expressed as IE% (Adult Emergence Inhibition) based on the
number of larvae that do not develop successfully into adults at various concentration (0.025-0.125%). Probit analysis was used for determination of IE$_{50}$ and IE$_{90}$.

The result show 50% and 90% of adult emergence inhibition (IE$_{50}$ and IE$_{90}$) were 0.042% and 0.112% against third instar larvae of Aedes aegypti. These results suggest that the leaf extract of Vitex trifolia has influence as adult emergence inhibitor against Aedes aegypti larva.

Keywords: Vitex trifolia leaf, ethanol extract, Aedes aegypti, insect growth regulator