POTENTIAL LARVICIDAL AND PUPACIDAL ACTIVITIES OF HERBAL ESSENTIAL OILS AGAINST *CULEX QUINQUEFASCIATUS* SAY AND *ANOPHELES MINIMUS* (THEOBALD)

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Abstract. The larvicidal and pupacidal effects of eight herbal essential oils were tested against third instar (L_3), fourth instar (L_4), and pupal stages of *Culex quinquefasciatus* and *Anopheles minimus*. Probit analysis was used to analyze the data. The larval mortality was recorded at 1, 5, 10, 30, and 60 minutes, and 24 hours. Pupal mortality was also recorded at 24 hours intervals for 96 hours when completed mortality was achieved. Citronella grass oil #2 (*Cymbopogon nardus*) proved to have the greatest toxicity against 3rd instar *Cx. quinquefasciatus* and *An. minimus* with LT_{50} at 1.2 and <0.2 minute, respectively. It exhibited a high level of effectiveness against 4th instar *Cx. quinquefasciatus* (LT_{50} at 5.1 minutes) and *An. minimus* (LT_{50} at 0.9 minute). Regarding pupacidal activity, *Cx. quinquefasciatus* and *An. minimus* pupae were susceptible to Lemon grass oil (LT_{50} at 1.2 hours) and Citronella grass oil #1 (LT_{50} at 0.6 hour), respectively. These oils had larvicidal and pupacidal activities with 100% mortality against L_3, L_4 and pupal stage *Cx. quinquefasciatus* at 10 minutes, 30 minutes and 24 hours. They also caused 100% mortality of *An. minimus* at 5 minutes (L_3, L_4), and 24 hours (pupal stage).

Key words: essential oil, larvicide, pupacide, *Anopheles minimus*, *Culex quinquefasciatus*

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