

Lectin of *Dioclea violacea* Effect's in *Aedes aegypti* Development

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INTRODUCTION: *Aedes aegypti* is an important vector of yellow fever virus, dengue, chikungunya and zika. Natural insecticides are being studied as an alternative for mosquito control in an attempt to minimize the development of resistance. The emergence of resistant insect populations due to the use of synthetic insecticides has stimulated the search for natural insecticides, including lectin (proteins which specifically recognize carbohydrates). Lectins promote agglutination of erythrocytes and participates in many cellular processes, such as glucose host defense, cell communication, fertilization and development. *Dioclea violacea*'s seeds purplish, a vine of fabaceae family distributed in Argentina, Paraguay and Brazil, contain lectin whose biological effect is unknown. **OBJECTIVES:** To analyze the effect of *Dioclea violacea*'s lectin in survival and larval development of *Aedes aegypti*. **MATERIAL AND METHODS:** isolating the *Dioclea violacea*'s lectin; the crude extract was chromatographed on Sephadex G-50 column, dialyzed and lyophilized. The tests were conducted in triplicate chronically (neonate larvae to adult emergence) and acute (3rd instar larvae). It was performed in triplicate ovicide activity of 50 eggs of *Aedes aegypti* to 96 hours. Were performed enzyme trypsin, chymotrypsin and acetylcholinesterase assays. **RESULTS AND DISCUSSION:** Chronic exposure *Dioclea violacea*'s lectin larvae showed delayed larval development and mortality of 26.66% and 62.66% in 72 hours at protein concentrations of 0.05 and 0.1 mg / mL respectively. After 216 hours this mortality increased to 69.33% (0.05mg / mL) and 94.66% (0.1mg / mL). **CONCLUSION:** Lecithin does not show capacity to prevent the outbreak; however the mortality of neonate larvae 24 hours was 48.9%. The acute test did not affect the survival, however, reduced the enzymatic activity of trypsin, chymotrypsin and acetylcholinesterase.

Keyword: *Aedes aegypti*, *Dioclea violacea*, lectin.

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