Title: **Evaluation of the Efficacy of Mundulea Sericia(Fabaceae)Extracts on Larval Survival of Anopheles Gambiae and Culex Quinoefasciatus(Diptera:Culicidae)**

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Abstract: In this study, two mosquito species which are important disease vectors in Kenya were studied. These were Anopheles gambiae and Culex quinqefasciatus which are the principle vectors of malaria and filariasis respectively. Despite the high prevalence of these diseases in Kenya, the available vector control measures are ineffective and expensive. Petroleum oils and pyrethroids are the most commonly used larvicides though they are quite expensive and pollute the environment. The purpose of this study was-to evaluate the efficacy of Mundulea sericia leaf and stem-bark extracts on larval survival of An. gambiae and ex. quinqefasciatus with the long-term aim of developing cost effective and efficacious larvicides from the extracts. Leaf and stem-bark samples which had been dried under shade to preserve volatile compounds were pulverized in a mortar and pestle. The resulting powder was then mixed with water and stored at a temperature of 4°C overnight for extraction of bioactive compounds. These were used to constitute the stock solution. The stock solution was serially diluted using water or ethanol during use to prepare different extract concentrations. The portions of the stock solution diluted with water formed water extracts while the one diluted with ethanol formed ethanolic extracts. Larvae of both mosquito species reared in vitro were subjected to different treatments of the extracts with varying concentrations. Larval mortality was recorded after every twenty four (24) hours. Each treatment had three replicates and the mortality means were determined from the collected data. The relationship between mortality rates, and extract concentration for two mosquito species was analyzed using linear regression analysis. The mean mortality rates in both mosquito larvae due to all the four treatments were compared using Analysis of variance (ANOV A) and the statistical significance in the mean mortality differences were calculated using the Student's Newmann-Keul's multiple range test (SNK test). The mortality rates of An. gambiae in both water and ethanolic extracts were statistically different. In Cx. quinqefasciatus, the mortality rates were also statistically different except in M sericia leaf water extracts (MSL W). When the mortality rates between the two mosquito larvae in all the four M sericia extracts were compared, statistical differences were noted in M sericia leaf water (MSL W), M sericia stern-bark water (MSSW) and M sericia leaf ethanolic (MSLE). However, the mortality rates of the two mosquito species larvae in M sericia stem-bark ethanolic (MSSE) extract were not statistically significant. The results obtained imply that M sericia extracts have bioactive compounds that are toxic to mosquito larvae and that they can be exploited in the development of larvicides.