

Abstract ID: P31

**COMPARISON OF INSECTICIDAL ACTIVITY GUIDED  
FRACTIONATE OF METHANOL EXTRACTION OF CINNAMON  
AGAINST *Anopheles tessellates***

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**Abstract**

Chemical control techniques against larval and adult mosquito populations may be justified if they are applied to water reserves and the atmosphere. The bioactivity of concentrates and fractions obtained from cinnamon leaves against *Anopheles tessellatus*, a significant human vector bug in tropical areas, particularly in Sri Lanka, was investigated to identify the fractions of the methanol extract that contain the most active chemical components. Maceration with methanol was used to extract cinnamon leaves. A contact bioassay was used to assess the extracts for insecticidal activity. The 59 g of crude was fractionated using a silica gel column (1000g, Merck Kieselgel 60, 230-400 mesh ASTM) with solvents hexane, ethyl acetate, methanol and water as a mixture of hexane: ethyl acetate and ethyl acetate: methanol in various ratios as in gradually increasing polarity. The eluents were separated into smaller beakers and numbered in order of increasing polarity. In order to separate and dry the seven different fractions, TLC methods were applied. In order to conduct the contact bioassay, 1000 ppm methanol extracts of each of these fractions were placed in direct contact with the larval stage of *Anopheles tessellatus* for a period of three days. After three days, the contact mortality was found to be highest in the fractions containing 0 to 45 percent ethyl acetate mixed with hexane, also known as F-1 (low polar), and 45 to 75 percent ethyl acetate combined with hexane, also known as F-2 (low polar). This leads one to believe that highly active chemicals that have the potential to be utilized as pesticides are located in fractions 01 and 02 of all seven fractions. As polarity increased, the diverse insecticide activities seen in the various fractions provided confirmation that the kinds of chemical compounds and their compositions in each fraction changed. Further studies are required to determine the structures of the biologically active components cinnamon, as well as the practical application of isolated extracts and phyto components in fractions that can be used in the prevention of vector-borne diseases.

**Keywords:** *anopheles tessellates*, cinnamon, vector