

## INSECTICIDAL ACTIVITY OF SELECTED HERBAL PLANTS EXTRACTS AGAINST ADULT *Coccidohystrix insolita*

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*Coccidohystrix insolita*, a common plant pest, poses economic threats to agriculture and horticulture, often requiring the use of synthetic insecticides for control. To address environmental and health concerns, this research explored natural alternatives in the form of methanolic leaf extracts from five plants: *Vitex negundo*, *Cymbopogon citratus*, *Cassia auriculata*, *Justicia adhatoda*, and *Ricinus communis*. The mortality test was conducted under laboratory conditions, using two concentrations (1% and 3%) over a period of 3 days, with four replications. The results were analyzed using Minitab Statistical Software Package and revealed that *Cymbopogon citratus* exhibited the highest insecticidal activity, with a rating of  $85.00 \pm 5.65$  after 3 days at a 3% concentration, while *Cassia auriculata* displayed the lowest activity, scoring  $10.00 \pm 4.74$  after 3 days at a 1% concentration among the plant extracts. The crude extract of *Cymbopogon citratus* was fractionated through column chromatography (length = 110 cm, diameter = 8.0 cm), using silica gel (400 g, Merck Kieselgel 60, 230-430 mesh ASTM). A solvent system with increasing polarity was employed, starting with hexane and progressing through ethyl acetate, ultimately reaching methanol with distilled water via ethyl acetate with methanol. This resulted in 9 distinct fractions, further isolated through thin-layer chromatography. Stock solutions of each fraction were prepared at a 1000 ppm concentration in methanol for insecticidal activity. Contact bioassay was conducted, and fraction F4 displayed the highest insecticidal activity against *Coccidohystrix insolita*.

**Keywords:** *Coccidohystrix insolita*, Column chromatography, Contact bioassay