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INSECTICIDAL ACTIVITY OF CERTAIN ORGANIC EXTRACTS AGAINST CITRUS MEALYBUG ADULT, *PLANOCOCCUS CITRI* (RISSO) AND ITS NATURAL ENEMY *CHRYSOPELRA CARNEA* (STEPH.) UNDER ORGANIC FARMING SYSTEMS

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ABSTRACT

Effects of seven organic extracts, i.e., *Azadirachta indica*, *Eucalyptus camaldulensis*, *Punica granatum*, *Ulva fasciata*, *Pterocladia capillacea*, vermicompost and chicken manure compost extracts (ethanol and water) using five concentrations (125, 250, 500, 1000 and 2000 ppm) with ethanol extracts and five concentrations (1.25, 2.5, 5.0, 10.0, and 20.0 %) with water extracts on citrus mealybug adult and their natural enemy *Chrysoperla carnea* (Steph.) were investigated. The percent mortalities resulted from treating adult of *P. citri* by different concentrations of the tested seven extracts were shown there were significant differences between treatments in ethanol and water extracts and the highest mortality present values were obtained from *P. capillacea* with ethanol and water extracts (67.1±11 and 60.0±0.5%), respectively. Also the results show that there were significant differences between the concentrations and the highest mortality present value at 2000 ppm with ethanol extracts and 20 % with water extracts. The highly toxicity against adult of *P. citri* obtained from *P. capillacea* with LC₅₀ values 225.1 ppm and 1.7 % on ethanol and water extracts, respectively. The effect of three most effective ethanol and water extracts, showed a little side effect on the predator *Ch. carnea*. This study may be useful as a part of an integrated pest control program based on biological agents and this encourages more use in organic farming systems.

Key words: *Chrysoperla carnea*, compost extract, Insecticidal Activity, organic farming, organic extracts, *Planococcus citri*, plant extracts, seaweeds extracts, vermicompost,