

Abstract

One of the major and native pests of Sistan is *Chrotogonus trachypterus*, while each year considerable damage to the crop products will enter. Due to the dangers of chemical pesticides, human awareness about irreversible and harmful effects on the environment and human health increased. In the meantime, microorganisms especially pathogenic fungi agents, essential oils and herbal extracts the most attention have attracted. In this study, the effect of exposure to the fungus *Trichoderma harzianum* on grasshopper *C. trachypterus* was tested. Experiments with temperature conditions 28 ± 2 °C , relative humidity 60 ± 5 percent and photoperiod 16:8 (light and darkness) performed. Contact effects with Topical method by micropipette apparatus of different concentrations of fungi under pronotum of adults were performed. fungus concentrations included 10^4 , 10^5 , 10^6 , 10^7 and 10^8 spores/ ml and control (Distilled water with Tween 20) Were prepared and mortality within 15 days separately calculated. The results show that the maximum and minimum mortality, in fungicidal concentrations of 10^8 and 10^4 , with mean 75 and 20 percent respectively ($P < 0.05$). Therefore, the use of entomopathogenic fungi can be Pathogenicity on grasshopper *C. trachypterus*. Also, compare the results obtained from *Eucalyptus* extract on 5 concentration 33, 22, 16.5, 8.5 and 4.125 mg/ ml on adults showed that the mortality is equal to 86.6, 70, 53.3, 40 and 26.6 percent respectively. Studies show that mortality rate with increasing concentration increased. According to the results of bioassay, It can be concluded that application of entomopathogenic fungi *T.harzianum* and *Eucalyptus globulus* extract has a positive effect on the target pest control in sistan.

Keywords: Pathogenicity, *Trichoderma harzianum*, *Chrotogonus trachypterus*, Biological control Bioassay, *Eucalyptus globulus*, , Plant extracts



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**Effect of pathogenicity the fungus
Trichoderma harzianum and lethal effect of
extract *Eucalyptus globulus* on the
grasshopper *Chrotogonus trachypterus*
(Orth.: Pyrgomorphidae)**

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