

The effect of plants extract of Parsley, Bindii and essential oils of Pennyroyal, Rosemary on Green lacewing, *Chrysoperla carnea*
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Abstract

Green lacewing, *Chrysoperla carnea*, as a general predator found abundantly in Iranian farms and gardens, loses its performance under the impression of pesticides spraying. Nowadays, considering environmental pollutions, human health and the importance of healthy and organic nutrition, extensive researches are carried out around the world in order to replace the synthetic products with plant materials. In this study, the mortality effect of two ethanol extracts of *Tribulus terrestris* and *Tagetes erecta* and two essential oils of *Mentha pulegium* and *Rosmarinus officinalis* were studied on *C. carnea*, natural enemy of pest insects. The results showed that, the extracts have low influence on ۱-۲ days green lacewing larvae. The plant extracts and essential oils have not effect on ۵-۶ days green lacewing larvae. The results show that the plant derived chemicals and ethanol have not negative effect on hatching rate of the natural enemy. Among these treatments, *R. officinalis* essential oil has negative effect on eggs hatching rate, so its use is not recommended. Therefore with no impact of plant material on natural enemies, we can use green lacewing and herbal extracts in integrated pest control.

Key words: *Chrysoperla carnea*, plant extracts, essential oils, mortality, hatching rate