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[P7]

**Parasitism Rate of the Safflower Fly, *Acanthiophilus helianthi* Rossi (Dip.: Tephritidae) by Two Parasitoid Species on Different Cultivars of Safflower in Iran**

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The safflower fly, *Acanthiophilus helianthi* Rossi (Dip.: Tephritidae) is one of the most important pests of safflower in Iran. Using parasitoids is always considered as one of integrated pest management methods. In order to evaluate parasitism rate of the safflower fly by two parasitoid species, *Microdontomerus annulatus* and *Ormyrus graciosus*, seven cultivars were cultivated under randomized blocks design in four replicates in Shahed University, research fields in 2012. Sampling was carried out from safflower bolls every seven week. Results showed that the highest parasitism rate of *M. annulatus* species was 11.47% and 9.35% on the Mec163 and Padideh cultivars, respectively. The lowest parasitism rate (5.1%) was seen on all cultivars at beginning of season. The peak of parasitism rate was occurred in the 9<sup>th</sup> of July was 11.47%. The lowest and highest parasitism rate by *O. graciosus* parasitoid species was observed as 4.95% on all cultivars at the beginning of the season and 12.3% on Mec163 and Varamin cultivars, respectively. The peak of parasitism rate (12.3%) by *O. graciosus* was occurred in the 19<sup>th</sup> July. Overall, it can be concluded that because of application of insecticides against safflower pests, especially *A. helianthi* in the cultivated areas, parasitoids activity is very low. Therefore, the use of selective insecticides and planting flowering plants as refugia for parasitoids, can enhance their performance.

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**Olfactory Attracting Behaviour of Naive *Diadegma semiclausum* Hellen (Hym., Ichneumonidae) Females to Cabbage (*Brassica oleracea*) Plant Volatiles**

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The diamondback moth (DBM) *Plutella xylostella* (L.) is the most serious and economic important insect pest of brassicas crops worldwide. Its ability to develop resistant to all pesticides (both chemicals and biopesticides) after 2-3 years of application has putting serious problem to cabbage growers. Up to date, there has been no significant success in employing either parasitoid or predators in managing the DBM population. This could due to the limited understanding on the tri-trophic interaction between DBM-parasitoid/predators-plant. As such, this study was aimed to investigate the effect of Cabbage plants volatiles on the attracting response behaviour of *D. semiclausum* Hellen females using Y-olfactometer. Results showed that the plants that fed by *Crociodomia binotalis* Zeller larvae or mechanically damaged were more attractive to *D. semiclausum* Hellen than intact plants. Plants that were previously colonized by aphids, damaged by DBM (*Plutella xylostella* (L.)) larvae or damaged by detached insect body parts were not at all attractive to *D. semiclausum*. The volatiles from the plants fed by *Crociodomia binotalis* Zeller larvae were found to be significantly more attractive to the wasp females. The mechanically damaged plants were attracted more to *D. semiclausum* than the intact plants but the result was not significant. We demonstrated that the plants mechanically damaged by herbivores, host or non-host of *D. semiclausum*, induce the release of volatile compounds which could play an important role in the attraction of the parasitoid *D. semiclausum*. This form of tri-trophic interaction should be manipulated for the better impact of an integrated DBM management.