Contact toxicity of *Lavandula angustifolia* Mill and *Zataria multiflora* Boiss essential oils against *Callosobruchus maculatus* adults (Coleoptera: Bruchidae)

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In last decades, many researches have been down on use of botanical compound especially essential oils as insecticides. In the present study, the contact toxicity of *Lavandula angustifolia* and *Zataria multiflora* essential oils were evaluated on both sexes of 1-2 day-old *C. maculatus* adults at 30±1°C, 60±5% RH and dark condition. Essential oils were obtained by hydrodistillation. The toxicity of oils against males and females were positively and significantly associated with concentration. On the basis of LC50 ratios and their 95% confidence limits, there was no significant difference between sensitivity of males and females. The LC50 values were 719 and 598 µl.m⁻² against males and 787 and 738 µl.m⁻² against females for *L. angustifolia* and *Z. multiflora*, respectively. Both oils showed no toxicity on cowpea (*Vigna unguiculata*) seed germination. Based on the analysis by GC-MS, the main compounds of *L. angustifolia* oil were linalool (42.8%), 1,8-cineol (23.4%), rosefuran epoxide (14%), menthone (6.8%), isomenthol (5.2%) and dihydro carvone (trans) (4.3%) and those of *Z. multiflora* oil were thymol (55%), linalool (37.8%) and p-cymene (7.2%). The results suggested that *L. angustifolia* and *Z. multiflora* essential oils might be suitable alternatives to conventional pesticides for protecting pulses against *C. maculatus* adult.

*Keywords*: Essential oils, *Lavandula angustifolia*, *Zataria multiflora*, Contact toxicity, seed germination

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