

عنوان مقاله:

Assay of some essential oils and extracts for combat *Anopheles stephensi* larvae in laboratory condition

محل انتشار:

دومین کنگره بین المللی بیماریهای منتقله بوسیله ناقلین و تغییرات آب و هوایی و چهارمین کنگره ملی حشره شناسی پزشکی ایران (سال: 1398)

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خلاصه مقاله:

Background: *Anopheles stephensi* is one of the major transmitters of malaria and it is important to prevent its larvae from maturation. Due to the resistance of mosquito larvae to synthetic larvicides and their adverse effects on environment, it is necessary to try to find more effective and safer larvicides. The plant essential oils and extracts are one of the important candidates. Objectives: The purpose of this research is an attempt to find organic plant EOs and extracts to help produce an organic larvicide. Materials and Methods: Pure leaf EOs of plants have purchased from different valid EO and extract producing companies in Iran. *An. stephensi* larvae were reared at insectary of School of Public Health, Tehran University of Medical Sciences. The larvicidal bioassay trials has been done using WHO guidelines for laboratory and field testing of mosquito larvicides. Larval death recorded 24 h after treatment. All analyses has been done using the statistical package MS excel 2013. Results: LC50 values of *Brassica juncea*, *Artemisia vulgaris*, *Ocimum basilicum* and *Pistacia atlantica* subsp. *Kurdica* EOs and *Urtica dioica* and *Allium stipitatum* extracts were 30.66, 160.61, 178.90, 162.24, 536.14 and 1307.53 ppm, respectively. Conclusion: *B. juncea* EO is the main suggestion of this research as larvicide followed by three EOs of *A. vulgaris*, *O. basilicum* and *P. atlantica* subsp. *Kurdica*. Because of extracts nature to be less toxic than EOs, use of *U. dioica* and *A. stipitatum* extracts can be recommended in compare with other plant extracts.

کلمات کلیدی:

Essentials oils, *Anopheles stephensi* larvae, larvicidal, bioassay

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