Larvicidal activity and chemical compositions of *Juniperus phoenicea* L. leave extract against *Culex pipiens* L.

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Mosquitoes are of great concern in many countries. *Culex pipiens* L. (Diptera:Culicidae) is the vector of the West Nile virus and Usutu Viruses. Intense use of insecticidal agents has resulted in increased mosquitocidal resistance, and thereby search for new effective mosquitocidal agents. In this context, we have explored the larvicidal potential of Phoenician juniper [*Juniperus phoenicea* L. (Fam. Cupressaceae)] against *Cx. pipiens* and studied the chemical composition of the leaf extract. Fresh leaves of *J. phoenicea* were macerated in 70% methanol. The LC_{50} at 24, 48 and 72 h post-treatment with methanol extract were 7.14, 3.97 and 3.17 µg/mL, respectively, against *Cx. pipiens larvae*. In treated larvae, the cells lost integrity, nucleus and cell membrane damage, basal lamina detached, and lost nuclear and cytoplasmic materials. From GC–MS analysis, 19 compounds were detected. Some of the phytochemicals detected in *J. phoenicea* extract were 9,12-octadecadienoic acid (Z,Z)-(50.2.%), podocarpa-8,11,13-trien-3-one, 14-isopropyl-13-methoxy-(13.2%), -Amino-7,10-dimethyldibenzo [b,f][1,4]oxazepin-11(10H)-one (8.4%), and n-hexadecanoic acid (5.6%). *J. phoenicea* offered promising larvicidal activity against *Cx. pipiens*.

Keywords: Cupressaceae, Mosquitocidal resistance, 9,12-Octadecadienoic, Phoenician juniper, Saint Louis encephalitis virus, West Nile virus, Usutu virus