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# Larvicidal, Ovicidal activities and histopathological alterations induced by *Carum copticum* (Apiaceae) extract against *Culex pipiens* (Diptera: Culicidae

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**Larvicidal, Ovicidal activities and histopathological alterations induced by *Carum copticum* (Apiaceae) extract against *Culex pipiens* (Diptera: Culicidae)**

## Abstract

An experiment was carried out, firstly, to determine the possible toxicity of *Carum copticum* (Apiaceae) extract against *Culex pipiens* (Diptera: Culicidae), and, secondly, to study the histopathological alterations in the midgut of *Cx. pipiens* as a result of treatment with *C. copticum* extract. Larvicidal and ovicidal activities of *C. copticum* extract against the larvae of *Cx. pipiens* was determined according to World health organization (WHO). The inhibition effect of *C. copticum* was assessed by determining the mortality of the treated larvae and eggs. The histopathological effect of the *C. copticum* extracts on midgut epithelium of the larvae was examined under both light and transmission electron microscopy.The crude extract of *C. copticum* exerted 100% mortality for *Cx. pipiens* after 24 h at 200 µm/ml, and zero hatchability (100% mortality) at 150 µm/ml for *Cx. pipiens*. The histopathological study showed that larvae treated with *C. copticum* extract had