

Chemical screening, insecticidal and reprotoxic activities of *Tecoma stans* ethanolic leaf extract against the vector mosquito *Culex pipiens*

Nour-El Houda Hafsi^{1,2} | Kaouther Hamaidia^{2,3}  | Noureddine Soltani³

¹Laboratory of Sciences and Technical Water and Environment, Mohamed Cherif Messaadia University, Souk-Ahras, Algeria

²Department of Biology, Faculty of Nature and Life Sciences, Mohamed Cherif Messaadia University, Souk-Ahras, Algeria

³Laboratory of Applied Animal Biology, Faculty of Sciences, Department of Biology, Badji Mokhtar University, Annaba, Algeria

Correspondence

Kaouther Hamaidia, Department of Biology, Faculty of Nature and Life Sciences, Mohamed Cherif Messaadia University, Souk-Ahras, Algeria.
Email: kaouther.hamaidia@univ-souk-ahras.dz

Abstract

To select potential plant-based insecticides, *Tecoma stans* (Bignoniaceae) leaf extract was screened for its larvicidal and delayed effects against a medically important mosquito species *Culex pipiens* L. (Diptera: Culicidae). First, gas chromatography–mass spectrometry (GC–MS) was conducted on *T. stans* extract, collected in ethanol for its chemical characterization and detection of active constituents. Second, insecticidal bioassays were made with several concentrations on earlier fourth instar larvae (L4) of *Cx. pipiens* for 24 h as recommended by WHO, in order to determine the lethality parameters of the tested extract. For that, two concentrations (LC₃₀ and LC₅₀) were applied on L4 for 24 h, and emerged adults were observed for their reproductive performance success like fecundity, percentage of hatching (fertility),