Ghnimi Wafa et al., Nat Prod Chem Res 2014, 2:5
http://dx.doi.org/10.4172/2329-6836.S1.004

OMICS Group Conferences
Accelerating Scientific Discovery

2nd International Conference and Exhibition on
Pharmacognosy, Phytochemistry & Natural Products
August 25-27, 2014 DoubleTree by Hilton Beijing, China

Larvicidal activity, phytochemical composition, and antioxidant properties of different parts of five populations of *Ricinus communis* L.

Ghnimi Wafa[1,2,3], **Dicko Amadou**[1], **Khouja Mohamed Larbi**[2] and **El Ferchichi Ouarda Héla**[3]
[1]Lorraine University, France
[2]National Institute for Research in Rural Engineering Water and Forestry, Tunisia
[3]Carthage University, Tunisia

This study was conducted to evaluate, the phytochemical composition of leaves and roots of five Tunisian populations of castor (*Ricinus communis* L.). Levels of total phenolic contents, total flavonoids, and condensed tannins of methanolic extracts were determined by UV-spectrophotometer. Phenolic compounds were identified and quantified by RP-HPLC. Gentisic acid, catechin, rutin, vanillic acid, vitexin, and gallic acid were detected. GC-MS analysis that uses the FAME method in castor oils revealed the existence of palmitic, stearic, oleic, gondoic, linoleic, and ricinoleic acids. The antioxidant properties of leaves, roots, and oils of castor were detected using the DPPH radical scavenging capacity assays. The study showed a high antioxidant capacity which was expressed by a very low IC50 values for the leaves extracts: Hammamet (0.65 µg/ml), Aouled Amer (2.42 µg/ml), Riadh Andalous (2.34 µg/ml), Nefza (3.91 µg/ml), and Khanguet Hajej (2.39 µg/ml). Besides, the larvicidal activity of aqueous extracts of leaves and seeds against *Culex pipiens* L. larvae was investigated. Toxicity tests showed a mortality of 100% after 24 hours of exposure. The LC_{50} values for the seed extracts were low: Aouled Amer (570 mg/l), Nefza (603 mg/l), Khanguet Hajej (1260 mg/l), Riadh Andalous (1225 mg/l), and Hammamet (2140 mg/l). This study permits to exhibit two positive correlation relationships: The first one between the total phenolic compounds, total flavonoid compounds, and the antioxidant activities of leaves and roots extracts, and the second one between the antioxidant activity and the larvicidal activity of the leaves extracts.

Biography

Ghnimi Wafa is a PhD student at Lorraine University, France and Carthage University, Tunisia. She has participated in many international conferences.

wafaghnimi@gmail.com