Republic of Iraq
Ministry of Higher Education and Scientific Research
University of Baghdad
College of Pharmacy

Phytochemical study of some medicinal compounds present in *Cordia myxa* L. plant cultivated in Iraq

A Thesis

Submitted to the Department of Pharmacognosy and the Committee of Postgraduate Studies of the College of Pharmacy-University of Baghdad in Partial Fulfillment of the Requirements for the Degree of Master of Science in Pharmacy (Pharmacognosy)

By

Nuha Muhammed Abod
(B.Sc. Pharmacy 2008)

Supervised By

Assist. Prof. Dr. Zainab Jalil Awad

2016 **1438**

Abstract

Cordia myxa L. (Arabic name:Bamber) of the family Boragenaceae. The origin of this plant is tropical Asia. this plant distributed in a wide range in Arab Gulf region while in Iraq it is cultivated in a wide rang in the middle and south regions such as Baghdad and Al-Basrah.

This plant contain many active constituents include: flavonoids(robinin, rutin, datiscoside and hesperidin, one flavone aglycone, dihydrorobinetin), two phenolic acids (chlorogenic acid and caffeic acid), saponins, terpenes and sterols (betasitosterol) and coumarins.

*C. myx*a L. has high medicinal uses such as anti inflammatory, analgesic antimicrobial, antiasthmatic, gastroprotective ,anticancer and antileishmania.

This study concerned with extraction, identification, isolation, and purification of some active constituents which are flavonoid (rutin) and phenolic acid (chlorogenic acid) from *C. myxa* L. leaves and detection of presence of these compounds in crude extracts of *C.myxa* L. fruits. In addition, detection of the presence of other active constituents which are (betasitosterol and coumarin) in the crude extracts of *C.myxa* L. leaves and fruits.

One extraction method was tried for flavonoid (rutin) by soxhlet apparatus with 70% ethanol then fractionated with hexan, then with ethylacetate ,one extraction method for phenolic acid (chlorogenic acid),by soxhlet extraction with 80% methanol, one extraction method for sterols (betasitosterol) by petroleum ether (60-80)^{o}c and one extraction method for coumarin with 50% ethanol .

The preliminary identification of the flavonoid, phenolic acid, sterol and coumarin was done by thin layer chromatography (TLC) where different solvent systems were tried and ultra-violet at (254 and 365) nm were used

for detection of rutin, chlorogenic acid , coumarin. while 5% H_2SO_4 spray reagent with heating at 100^oC was used for betasitosterol detection. This identification was further augmented by high performance liquid chromatography (HPLC) and then isolation and purification of rutin and chlorogenic acid.

The identification of isolated compounds (rutin and chlorogenic acid) were done by a direct comparison with authentic standards using thin layer chromatography (TLC), melting point (M.P), fourier transform infrared (FTIR), and High performance liquid chromatography (HPLC) analysis.