International Journal of Research in Pharmacy and Pharmaceutical Sciences
ISSN: 2455-698X; Impact Factor: RJIF 5.22
www.pharmacyjournal.in
Volume 2; Issue 3; May 2017; Page No. 18-20

Preliminary phytochemical analysis of *galinsoga parviflora* (Cav) leaves and flowers

Ranjitha S, * A Suganthi

Assistant Professor, Department of Botany, Nirmala College for Women, Coimbatore, Tamil Nadu, India

Abstract
Galinsoga parviflora belongs to the family Asteraceae. The Asteraceae family most commonly used for wound healing. The preliminary phytochemical studies of *Galinsoga parviflora* leaves and flowers were analysed. In my finding, *Galinsoga parviflora* leaves showed the significant presence of flavonoids, tannins, quinines and cellulose and in flowers contain significant amount of flavonoids, glycosides, carbohydrates, tannins, quinins, celluloses and steroids. Mainly flavonoids and tannins are responsible for wound healing properties. Flavonoids have many therapeutic use due to their anti inflammatory, anti-fungal, antioxidant and wound healing properties. Tannins are the main components of many plant extracts and they acts as free radical scavenges. Wound healing activities of this plant may also be subsequent to an associated antimicrobial effect. Based on this work, *Galinsoga parviflora* have the wound healing properties.

Keywords: *galinsoga parviflora*, leaves, flowers, petroleum ether, methanol, aqueous extract

1. Introduction
Medicinal and aromatic plants form a numerically large group of economically important plants. The medicinal plants are useful for healing as well as for curing of human diseases because of the presence of phytochemical constituents (Nostro *et al*., 2000) [6]. Herbal drugs constitute a major part in all the traditional system of medicine (Mukherjee 2002) [5]. *Galinsoga parviflora* belongs to Asteraceae family. It is also Known as *tridax parviflora* (Gallant soldier) originates from Central America (Holm *et al*., 1979) [2]. Medicinal values of this leaves extract and salt is given in fever, diarrhea and vomiting. *Galinsoga parviflira* leaves mixed with ginger are made into a paste and applied as a remedy for snake-bite (Kiritikar and Basu 1998) [4]. The Asteraceae family most commonly used in wound healing. The plants species reported to have pharmacological properties as they are known to possess various secondary metabolites like glycosides, saponins, flavonoids, steroids, tannins, alkaloids, triterpenes which is therefore, should be utilized to combat the disease causing pathogens (Kamali *et al.*, 2010) [3].

2. Materials and methods
Collection of plant materials
The leaves and flowers were collected from Nirmala College for Women, Coimbatore. The plant materials were shade dried until all the water molecules evaporated and plants became well dried for grinding. After drying, the plant materials were ground well mechanical blender into fine powder and transferred into containers with proper labeling for future use.

Preparation of plant extract
Each 15 gm of air dried powder were taken in 50 ml of methanol and water. Plugged with cotton wool and then kept on a rotary shaker at 199-220 rpm for 48 hours. The solvent were evaporated to the final volume one-fourth of the original volume and stored at 4 °C in air tight containers. The plant extract used for phytochemical analysis

Qualitative phytochemical analysis
The phytochemical analysis of aqueous and methanol, petroleum ether extracts of *Galinsoga parviflora* leaves and flowers were analysis by the standard methods and shown the presence of various phytochemical constituents such as alkaloids, glycosides, carbohydrates, flavonoids, terpenoids, saponins, phenols, tannins, quinines, cellulose, gum and steroids.

Test for Alkaloids
To reveal the presence of alkaloids, few drops of mayer's reagent (potassium mercuric iodide) reagent were added to the extract, cream colour precipitate visualises the presence alkaloids.

Test for Glycosides
To 2ml of extract, add 1ml of glacial acetic acid, few drops of 5% Fecl3 and Conc.H2So4 were added reddish brown colour at the junction of two layers and upper layers appears bluish green visualises the presence of glycosides.

Test for Carbohydrates
To 2.3ml of extract, few drops of Molisch reagent (α-napthol) was added, shaken well and Conc. H2So4 was added from the sides of the test tube, violet ring formation at the junction of two layers visualises the presence of carbohydrates.

Test for Flavonoids
To the 1 ml of extract few drops of 10% Conc. H2So4 was added and followed by adding 1ml of ammonia, formation of

greenish yellow precipitate visualises the presence of flavonoids.

Test for Terpenoids
To 2ml of extract, 5ml of chloroform and 2ml of Conc. H2So4 was added. Reddish brown colourations of interface visualises the presence of terpenes (Harborne; 1973).

Test for Saponins
To 2ml of extract add water and shaken vigorously for frothing presence visualizes saponins.

Test for Phenols
To 1ml of extract add alcohol and few drops of ferric chloride solution is added for the formation of greenish yellow visualises the presence of phenols.

Test for Tannins
To 1ml of extract, 1ml of 5% Fecl3 was added which visualises by the presence of greenish black precipitate.

Test for Quinones
To 2ml of extract add Conc.Hcl by formation of green colour visualises the presence of quinones.

Test for Celluloses
To 1ml of extract add iodine, followed by addition of Conc. H2So4 by formation of brown visualises the presence of celluloses.

Test for Steroids
To 2ml of extract, 1ml of chloroform and drop of glacial acetic acid was added, followed by heating and add Conc. H2So4 which visualises by the presence of orange colour (Liebermann Burchardtest, Salkowski test and Liebermann's reaction).

Test for gum
To 1ml of extract add 3ml of Dil.Hcl, Fehling's solution is added drop by drop by drop till red colouration visualizes the presence of gums.

3. Results and discussion

Phytoconstituents are the natural bioactive compounds found in plants. Phytochemical are basically divided into two groups, primary and secondary constituents. According to their functions in plant metabolism. Primary constituents comprise common carbohydrate secondary constituents consists alkaloids, glycosides, flavonoids, terpenes and terpenoids, saponins, phenols, phenols, tannins, quinines, celluloses, steroids and gum (Goh *et al*.,1995).

In my finding preliminary phytochemical studies of *Galinsoga parviflora* dry leaves and flowers in petroleum ether, methanol and aqueous extract were analysed (Table-1 and Table-2). From the Table-1 showed the result of *Galinsoga parviflora* leaves in petroleum ether showed the significant presence of glycosides, carbohydrates, phenols, tannins, quinines, and celluloses. Alkaloids slightly presence. Flavonoids terpenes and terpenoids, saponins and steroids were absence.

In methanol extract contains significantly presence of flavonoids, saponins, tannins, quinines, and celluloses. Glycosides, terpenes and terpenoids slightly were presence. Carbohydrates, phenols and steroids were absence.

Glycosides, carbohydrates, terpenoids, tannins, quinines and celluloses were found significantly presence in aqueous extract. Flavonoids, gum and phenols slightly presence. alkaloids and steroids were absence.

Based on the preliminary phytochemical analysis of *Galinsoga parviflora* leaves showed significantly presence of glycosides, carbohydrates, terpenoids, saponins, phenols, tannins, quinines, celluloses, in aqueous extract. Flavonoids only presence in methanol extract. Similar results were reported by (Eslavath *et al*., 2013) same plant species in *Galinsoga parviflora* leaves.

From the Table-2 showed the result of *Galinsoga parviflora* flowers in petroleum ether, methanol and aqueous extract. In petroleum ether showed the significant presence of glycosides, carbohydrate, flavonoids, quinines, celluloses, steroids. Phenols, tannins was slightly presence. Alkaloids, terpenes, terpenoids and saponins were absence.

In methanol extract in significantly presence of glycosides, carbohydrate, saponins, tannins, celluloses and steroids. Alkaloids, flavonoids and quinines slightly were present. Terpenes and terpenoids and phenols were absence.

Alkaloids, glycosides, carbohydrate, saponins, tannins, celluloses and steroids were found significantiy presence in aqueous extract of *Galinsoga parviflora* flowers. Quinines andphenols slightly were presence. Flavonoids, terpenes and terpenoids were absence.

Glycosides, carbohydrates, celluloses, steroid presence in three extract. Phenols, tannins, quinines are slightly presence. Terpenes and terpenoids, gum are absence three sample. Accorting to leaves and flowers phenols and gum are slightly presence methonal extract.

Table 1: Phytochemical Constitutents Showed *Galinsoga Parviflora* Dry Leaves

Parameter analysis	Petroleum ether	Methanol	Aqueous
Alkaloids	+	_	_
Glycosides	+ +	+	+ + +
Carbohydrates	+ +	_	+ + +
Flavonoids	_	+ + +	+
Terpenoids	_	+	+ + +
Saponins	_	+ + +	+ + +
Phenols	+ + +	_	+
Tannins	+ +	+ + +	+ + +
Quinines	+ +	+ + +	+ + +
Celluloses	+ + +	+ + +	+ + +
Steroids	_	_	_
Gum	+	_	_

(+++ significantly presence, ++ slightly presence, + presence, - absence)

Table 2: phytochemical constitutents showed *galinsoga parviflora* dry flowers

Parameter analysis	Petroleum ether	Methanol	Aqueous
Alkaloids	_	+	+ + +
Glycosides	+ + +	+ + +	+ + +
Carbohydrates	+ + +	++	+ + +
Flavonoids	+ + +	+	_
Terpenoids	_	_	_
Saponins	_	+ +	+ + +
Phenols	+	_	+
Tannins	+	+ +	+ +
Quinines	+ +	+	+
Celluloses	+ +	+ +	+ + +
Steroids	+ + +	+ +	+ +
Gum	_	_	_

(+++ significantly presence, ++ slightly presence, + presence, - absence)

Fig 1: *Galinsoga Parviflora* (Cav) plant

4. References

1. Goh SH, Chuah CH, Mok JSL, Soepadmo E. Malaysian Medicinal Plants for the Treatment of Cardiovascular Diseases. Selangor Darul Ehsan: Pelanduk Publication. Kaula Lumpur, Malaysia. 1995.
2. Holm LG, Pancho JV, Herberger JP, Plucknett DL. Geographical Atlas of World Weeds. John Wiley & Sons, New York, USA, 1979.
3. Kamali. Investigation of in-vitro antiinflammatory, anti-paltelet and anti arthritic activities in the leaves of *Anisomeles malabarica* Linn. Research journal of pharmaceutical, biological and chemical sciences. 2010, 745-752.
4. Kiritikar, Banu. A text book of Indian medicinal plant, 2nd ed. Lalit Mohan Basu, Allahabad. 1998, 1587.
5. Mukherjee PK. Quality control of herbal drugs, 2nd ed., Syndicate binders, Muley BP, Khadabadi SS and Banarase NB (2009) Phytochemical Constituents and Pharmacological Activities of *Calendula officinalis* Linn (Asteraceae): A Review. Tropical Journal of Pharmaceutical Research, 2002, 455:465.
6. Nostro. Extraction methods and bioautography for evaluation of medicinal plant antimicrobial activity. Lett Appl Microbiol, 2000.