

RESEARCH ARTICLE

Preliminary evaluation of bioactive compounds of some wound healing plants.

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Manuscript details:	ABSTRACT
<p>Available online on http://www.ijlsci.in</p> <p>ISSN: 2320-964X (Online) ISSN: 2320-7817 (Print)</p> <p>Editor: Dr. Chavhan Arvind</p> <p>Cite this article as: Shrirame AM and Gogle DP (2016) Preliminary evaluation of bioactive compounds of some wound healing plants, <i>Int. J. of Life Sciences</i>, A6:67-70.</p> <p>Copyright: © Author, This is an open access article under the terms of the Creative Commons Attribution-Non-Commercial - No Derives License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.</p>	<p>The wound healing is common problem from ancient to till now. Many medicinal plant constituent having potential to cure it. Number of phytochemicals can easily isolated from plant part but awareness is very less . In the present investigation, priliminery phytochemicals screening of plant species i.e. <i>Clerodendron</i> sp., <i>Cissus quadrangularis</i> Linn, <i>Clerodendron serratum</i> spreng, <i>Clerodendron infortunatum</i> spreng, <i>Cymbopogan citratus</i> stpf., used for various phytochemicl such as Amino acids, Proteins, Carbohydrates, Phenols, Tannins, steroids etc.</p> <p>Key words- Phytochemical screening, Organoleptic charecteristics, Ethanolic and Acetone extracts.</p>
	<h2>INTRODUCTION</h2> <p>According to report of World Health Organization (WHO), medicinal plants would be the best source to obtain variety of drugs. Muthuselvam (2009) revealed that the 80% of individuals from developed countries use traditional medicines, which has compounds derived from medicinal plants. Therefore the evaluation of phytochemical properties is very necessary.</p> <p>Abbasi <i>et al.</i> (2010) Noted that, wound may be defined as a disruption and loss of functional activity of living tissue. Wound healing involves continuous cell-cell and cell-matrix interactions that allow the process to proceed in three overlapping phases viz., inflammation cellular proliferation and remodeling (Kokane <i>et al.</i>, 2009). Dewick (1996) pointed out that the plant drug has doesn't side effect and it maximum sources in nature. The plants which have been selected for medicinal use over thousands of years constitute the most obvious choice of examining the current search for therapeutically effective new drugs such as anticancerdrugs. Edoga <i>et al.</i> (2005) and Mann (1978) studied that due to some organic compound present in the medicinal plants such as secondary metabolite which are more helpful in physiological activity of human body. Saxena <i>et al.</i> (2012) have suggested that the useful application of the plant in recent medicine, physico-chemical and phytochemical standardization is very essential, therefore the medicinal value of the plant may be used properly and scientifically provide to the larger populations of the world. Therefore, in the present study try to find out significant value of plant species.</p>

MATERIALS AND METHODS

Collection of Plant materials

For the investigation of plants species i.e. *Clerodendron sp.*, *Cissus quadrangularis* Linn, *Clerodendron serratum* spreng, *Clerodendron infortunatum* spreng, *Cymbopogon citratus* stpf., were collected from nearby the Nagpur region during the flowering period and the authenticated have been done at PGTD Botany RTM ,Nagpur University Nagpur. Fresh plant materials were washed with tap and then with distilled water, shade dried and then fine powder and stored in airsealed bottles (Abbasi *et al.*, 2010)

Preparation of Extracts

The solvent extractions, 25 g of air-dried powder (In a Thimble) of the medicinal plants were taken separately with 150 ml of organic solvents (Ethanol and Acetone) and were taken into the soxhlet apparatus upto 48 hrs till the green colour of the plant material disappeared. After which the extracts were collected and stored at 4oC in airsealed bottles and were tested for the presence of various phytocompounds. (Amarsingham *et al.* 1964; Das and Bhattacharjee, 1970;; Harborne, 1984, 1998).

Organoleptic Evaluation

Organoleptic evaluation refers to evaluation of the whole plant powder of the species by Appearance, colour, odour, taste, etc. The organoleptic characters of

the sample were evaluated based on the method described by Siddiqui *et al.*, 1995; Siddiqui and Hakim, 1995; Kokate *et al.*, 2006).

Preliminary Phytochemical Screening

The preliminary phytochemical screening of the ethanol and Acetone extracts of whole plant powder of plant species were carried out using standard laboratory procedures, to detect the presence of different secondary metabolites (phytochemical constituents) such as Aminoacids, Carbohydrates, alkaloids, flavonoids, saponins, tannins, steroid, glycosides, phenols, triterpenoids, protein, (Saxena *et al.* 2012, Kokate *et al.* 1995, Gupta *et al.* 2008) (Amarsingham *et.al.* 1964; Das and Bhattacharjee, 1970; Gibbs, 1974; Harborne, 1984, 1998)

RESULTS AND DISCUSSION

The Organoleptic characters of all the plant species course powder are tabulated as Table No. 1. The Preliminary phytochemical screening for various functional groups is tabulated as Table No. 2.

In the present study shown (Table no-1) that, under normal condition of light, the organoleptic character of *Clerodendron sp.*, powder color is dark green in color with pungent smell and bitter in taste. *Cissus quadrangularis* has yellow green color, punget smell

Table.1- Organoleptic characters

Sr. No.	Name of Plant	Appearance	Colour	Smell	Taste
1	<i>Clerodendron sp.</i>	Powder	Dark green	Odour	Bitter
2	<i>Cissus quadrangularis</i> L.	Powder	yellow green	Pungent	Astringent
3	<i>Clerodendron serratum</i> spreng	Powder	Olive green	Odour	Bitter
4	<i>Clerodendron infortunatum</i> spreng	Powder	Olive green	Odour	Bitter
5	<i>Cymbopogon stapf</i>	Powder	Light green	Odour	Lemon test

Table.2- Preliminary phytochemical analysis

Sr. No.	Compounds	<i>Clerodendron sp.</i>	<i>Cissus quadrangularis</i>	<i>Clerodendron serratum</i>	<i>Clerodendron infortunatum</i>	<i>Cymbopogon sp.</i>
1	Amino acids	++	+	+	+	++
2	Proteins	+	+	+	+	+
3	Carbohydrate	+	+	+	+	+
4	Phenol	+	+	+	+	+
5	Flavonoid	++	+	+	++	+
6	Tannin	++	++	+	+	++
7	Alkaloid	+	++	NA	++	+
8	Glycoside	+	+	NA	NA	+
9	Triterpenoid	+	+	+	+	++
10	Saponin	++	+	+	++	++
11	Steroid	+	+	+	+	+

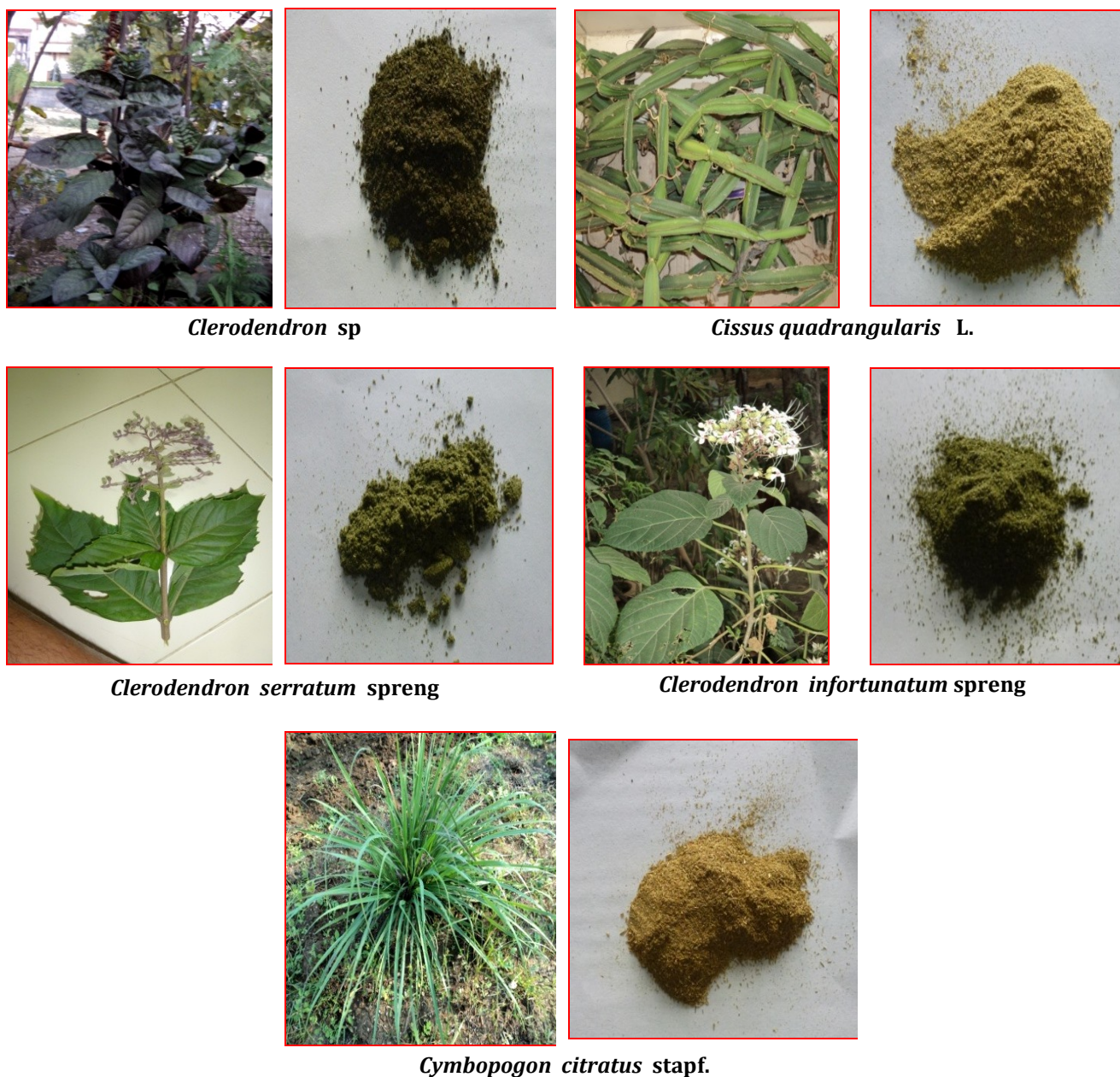


Fig. 1. Plant materials

as astringent taste. The species *Clerodendron serratum* and *infortunatum* olive green in color pungent smell with bitter in taste. The *Cymbopogon citratus* powder is light green in color it has smell is lemon type

Preliminary phytochemical screening of *Clerodendron sp.*, *Cissus quadrangularis* Linn, *Clerodendron serratum*, *Clerodendron infortunatum*, *Cymbopogon citratus* presence of Amino acids, phenols, tannin, saponins, steroids, triterpenoids, proteins, carbohydrates and glycosides as shown in Table 2. The present study revealed that the *Clerodendron sp.* and *Cymbopogon* has maximum content of compound but *Cissus*

quadrangularis has also average range of content of compounds. Our comparative statement of result has revealed that the agree with the presence reference by (Sharma and Gupta, 2013).

Phytochemical analysis of the crude extract revealed the presence of tannins among other chemical constituents contained within them. Tannins were shown to produce anthelmintic activities. It is earlier reported recent by Narayana et al. (2001). From the phytochemical analysis *Cissus quadrangularis* Linn root contains Phenols, Flavanoids, tannins, which may be responsible for anthelmintic activity.

CONCLUSION

The Phytochemical value of plant species reported in this paper is very important. With these species need to testing their living activities against organisms. For this require the establish of scientific ground for apply active compounds. Present investigation provides baseline information to screen out biological activities of these valuable plants in order to develop new wound healing and antiseptic medicines from plant origin.

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