



Research Article

**COMPARATIVE SCREENING OF VARIOUS SOLVENT FOR PHYTOCHEMICAL TESTING
USING SOME COMMELINACEAE MEMBERS.**

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Abstract: Commelinaceae members are of Flowering plant from monocot which grown as weeds in many places and also some of them having ornamental values. For current investigation *Commelina benghalensis*, *Rhoeo spathacea* & *Cyanotis cerifolia* were selected which are common herb plants disseminated in all over India belongs to family Commelinaceae. The prime purpose of this study was to screen secondary metabolites of selected species and finding useful solvent for Commelinaceae members.

Keywords: *Rhoeo spathacea*, *Cyanotis cerifoli* and phytochemicals.

INTRODUCTION

Commelinaceae is a family of flowering plants. It is one of five families in the order Commelinales from monocot which grown as weeds in many places and also some of them having ornamental values. commelinaceae consists of 650 species in 40 genera¹ are distributed throughout the world. At present naturally occurring phytochemicals are of major scientific interest. Chemical analysis of the leaves of *Commelina benghalensis*, *Rhoeo spathacea*, *Cyanotis cerifoli* revealed the presence of many biologically active compounds viz alkaloids, saponin, glycosides. Phytochemical studies will be helpful to isolate and characterize the chemical constituents present in those plant extracts which would be helpful in discovering the actual value of folkloric remedies². Selected plant species grows as weed throughout India which is always headache for farmers. To change public view this type of study may be helpful.

MATERIALS AND METHODS

Plant material

The fresh plant was collected from campus surrounding Yashvantrao Chavan Institute of Science, Satara. The fresh leaves of *Commelina benghalensis*, *Rhoeo spathacea*, *Cyanotis cerifoli* were washed with water and cut into small pieces. These were air dried and the dried materials were powdered and subjected for different extractions.

Preparation of extracts

Dried leaves powder were also subjected to Chloroform, Methanol and aqueous extraction. About 5 g of each studied commelinaceae member were immersed in different solvent and after hour that was kept for splitting entire cell on sonicator. The clear filtrate was obtained by filtering through a Buchner funnel. The filtrates were used for further studies.

Qualitative phytochemical analysis

Preliminary photochemical testing for the presence of various compounds by standard methods like Steroids³, Benedicts test for reducing sugar⁴, Alkaloid tests by Wagner *et al.*⁵, Tannins⁶, Saponins by Kumar *et al.*⁷ and compounds like Phenols, Flavonoids, Glycosides by Khandelwal⁸ were conducted.

RESULTS & DISCUSSION

The results revealed the presence of Alkaloids, Carbohydrate, Glycosides, Tannins, Steroids, Flavonoids and Saponins in aqueous extract of *Cyanotis cerifolia* (table 1). Only Steroids have shows negative response in case of all extract of *Rhoeo spathacea*. While in case of *Commelina benghalensis* only glycosides test shows negative reaction.same kind of work has been carried out by Kharade *et al.*⁹ on *C. benghalensis*, and Thite *et al.*¹⁰ on few medicinal plants.

The results also revealed that the absence of Tannins, Steroids, Flavonoids and Saponins in chloroform extract of *Cyanotis cerifolia*. For chloroform extract of *Rhoeo spathacea* absence of Glycosides, Steroids, Flavonoids and Saponins and in *Commelina benghalensis* only Glycosides and Steroids shows negative response. While all other bioactive compounds shows positive reaction in all species.

It is evidence from results (table 1) the presence of Alkaloids, Carbohydrate, Glycosides and Steroids in methanolic extract of *Cyanotis cerifolia*. In *Rhoeo spathacea* also absence of Glycosides, Tannins, Steroids, Flavonoids and Saponins. But in case of methanolic extract of alkaloid and tannin only shows negative response and other phytochemical test like Glycosides, carbohydrates, Steroids, Flavonoids and Saponins shows positive response. Similar type of work has been completed by Tupe *et al.*¹¹ in cucurbitaceae members with alcohol and aqueous samples.

Table-1: Results of Phytochemical Analysis

Species		<i>Cyanotis cerifolia</i>			<i>Rhoeo spathasis</i>			<i>Commelina bengalensis</i>		
Solvent		DW.	Chlorof orm	Methan ol	DW.	Chlorof orm	Metha nol	DW.	Chlorofo rm	Methan ol
1	Alkaloids									
	Wagner's reagent	+	+	+	+	+	+	+	+	-
	Dragendorf's reagent	+	-	+	+	-	-	+	+	-
2	Carbohydrate									
	Molisch's test	+	+	+	+	-	+	+	-	+
	Benedict's test	-	-	-	-	-	-	-	-	-
	Fehling's test									
	Fehling's test (f.r.s.)	-	-	-	-	+	-	+	+	-
	Fehling's test (c.r.s.)	-	-	-	-	+	+	+	+	+
3	Glycosides	+	+	+	+	-	-	-	-	+
4	Tannins	+	-	-	+	+	-	+	+	-
5	Steroids	+	-	+	-	-	-	+	-	+
6	Flavonoids	+	-	-	+	-	-	+	+	+
7	Saponins	+	-	-	+	-	-	+	+	+

Alkaloids by wagner test shows positive response for all solvent for all studied species except for methanol in *Commelina benghalensis*. Carbohydrate by Benedict's test shows totally negative response for all species. For *Cyanotis cerifolia* only Molisch's test for carbohydrate shows positive response. While in remaining species it shows common response that is negative response for chloroform only. It is evidence from result (Table 1) that maximum phytochemicals are watersoluble, after that methanol and few are of chloroform soluble.

CONCLUSION

It can be concluded from result that the studied species viz., *Cyanotis cerifolia*, *Rhoeo spathacea* and *Commelina benghalensis* have contain watersoluble bioactive secondary metabolites. It is well known fact that phytochemicals have medicinal importance. Hence from current work it can be also concluded that these species are chipest source of medicine for the treatment of various diseases.

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