

# Preliminary Phytochemistry of Fruit extracts of Some Euphorbian members

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## ABSTRACT

*Euphorbiaceae is one of the most widely distributed angiospermic family. This family has a great amount of diversified phytochemicals which are accumulated in the different parts of the plants like root, stem, leaves, flowers, fruits etc. Most of its members are being used in traditional medicines since ages. However, the work on fruit phytochemistry is less. The present work is focused on the study of phytochemical analysis of fruits of some euphorbian members. It was observed that, all fruits have rich but diverse phytochemical availability.*

**Keywords:** angiospermic, Euphorbiaceae, traditional medicine, Fruits, Phytochemicals.

## 1. INTRODUCTION

For thousands of years, plant have provided to human beings many basic and important materials required for their day-to-day life. Plants are also considered as biochemical factories, as involved in the production of various chemical components for the utilization of mankind.

The phytochemistry has a special significance in medicinal science; it can be observed from many years' experiences of ethnobotanical studies. To estimate the phytochemicals and their respective medicinal property firstly there is a need of preliminary phytochemical test. Therefore, the present study was planned to analysis the major phytochemicals in fruits of some members of Euphorbiaceae.

Euphorbiaceae is one of the largest family of flowering plants which consists of 300 genera and 7,500 species among the world. This family have a diverse nature it includes some herbs, shrubs and trees (Webster, 1994). Euphorbiaceae family is characterised by cyathium type of inflorescence, flowers are strictly unisexuals, and plants are monoecious. Several plants from this are used in traditional ethnomedicines to treat various diseases (Jain, 1996 and Bijekar et al., 2014).

For the present investigations focused on preliminary phytochemical analysis of fruits of five Euphorbian members these are namely, *Ricinus communis* L., *Euphorbia prunifolia* (Jacq.), *Phyllanthus maderaspatensis* (Linn.), *Chrozophora rootleri* (Geister) Juss and *Emblica officinalis* (Gaerten.)

## 2. MATERIALS AND METHOD

### 2.1 Collection of plant materials:

Plants and plant materials selected for the study were collected from different localities of Akola district specially from Chikhalgaon, Kapsi, Akot region. Firstly, the plants were spotted in different localities, identified them using different floras (Naik, 1998; Singh and Karthikeyan, 2001 and Yadav and Sardesai, 2002). A specimen copies of selected plant is submitted to the Herbarium of Department of Botany, Shri Shivaji College, Akola (MS).

### 2.2 Preliminary phytochemistry:

Preliminary phytochemistry was done as given by Harborne (1973), and Krishnaiah et al, (2009). It showed that presence of alkaloids, cardiac glycosides, Terpenoids, Reducing sugar, Saponin, Tannins, flavonoids, phenolics and steroids in plants.

### 3. RESULT AND DISCUSSION

Table- 1:Preliminary phytochemistry of fruits of five selected euphorbianplants.

Sr.No.	Phytochemicals	<i>R.communis</i>	<i>E.prunifolia</i>	<i>P.maderaspatensis</i>	<i>C.rootleri</i>	<i>E.officinalis</i>
1	Alkaloids	+	-	-	+	+
2	Cardiac glycosides	-	+	+	-	+
3	Terpenoids	+	+	-	+	+
4	Reducing sugar	-	+	+	+	+
5	Saponins	+	+	-	-	-
6	Tanins	-	-	-	-	-
7	Flavonoids	+	+	-	+	+
8	Phenolics	+	-	+	-	+
9	Steroids	+	+	+	+	+

### 4. CONCLUSION

The results of preliminary phytochemical analysis of fruits of some euphorbian plants indicate that, all of them are rich in phytochemicals. However, along with similarities, they have divergence in availability of the chemical groups (table-1). *Ricinus communis* (Linn.), showed the presence of alkaloids, terpenoids, saponins, flavenoids, phenolics, and steroids. But the tests for cardiac glycosides, reducing sugar, tannins were negative indicating their absence in extract.

*Euphorbia prunifolia*(Jacq.) showed the presence of cardiac glycosides, terpenoids, reducing sugar, saponins, flavonoids, steroids and phenolics and absence of alkaloids, tannins and Phenolics. The phytochemical analysis of *Phyllanthus maderaspatensis*(Linn)showed the presence of cardiac glycosides, reducing sugar, phenolics and steroids with negative tests for alkaloids, terpenoids, saponin and flavonoids. *Chrozophorarootleri*(Geister) Juss. showed the presence of alkaloids, terpenoids, reducing sugar, flavonoids and steroids.But cardiac glycosides, saponins, tannins, phenolics were absent

*Emblca officinalis* (Gaerten.)fruit extractshowed the presence of alkaloids, cardiac glycosides, terpenoids reducing sugar, flavonoids phenolics while saponin, tannins were absent in it. The preliminary phytochemistry was done as given by Harborne 1973, and Krishnaiah *et al*, 2009. The fruit extracts showed presence of alkaloids, cardiac glycosides, flavonoids, phenolics, steroids. The presence of phytochemicals like flavonoids, phenolics, alkaloids, terpenoids and cardiac glycosides might be responsible for the medicinal characteristic of respective plants.

Availability of alkaloids showed that they are used in medicine as stimulant, diuretic, on cough and muscle relaxant, it also might have antipyretics, anti-tumour properties etc. Presence of cardiac glycosides shows that these plants are useful for the treatment of cardiac failure and its medicines. Presence of cardiac glycosides in *Phyllanthus maderaspatensis*(Linn.), *Euphorbia prunifolia*(Jacq.), *Emblca officinalis* (Gaerten.)might be related with increases the cardiac output by increasing the force of contraction. Natural phenolic compounds in these plants played important role in cancer prevention (Singla and Pathak, 1993; Munshi *et al.*, 1993; Omale and Emmanuel, 1997; Ravichandran *et al.*, 2012). It also shows anti-oxidant and anti-inflammatory properties hence used in medicines. The *Emblca officinalis* (Gaerten.) fruit extracts might prove valuable natural anti-oxidant sources and are potentially applicable in both medicines (Al-Magboul and Sahib, 1995). Presence of flavonoids in these plants shows that it can be used as anti-cancer agent and has ability to inhibit human platelet aggregation.

## 5. REFERENCES

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