

Phytochemical Screening of Leaves Extract from *Epipremnum aureum*

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ABSTRACT

Objective: *Epipremnum aureum* belonging to the family Araceae and are most commonly known as Money plant. *Epipremnum aureum* is one of the most popular houseplant species and having removing capacity for indoor air pollution. The main aim of the present article was to identify the presence of different secondary metabolites which is useful for medicinal purposes. **Methods:** The fresh leaves were collected and extracted in three different solvent, Methanol, Acetone and Aqueous. The qualitative analysis of plant extract was performed. **Results:** Qualitative analysis showed the presence of Alkaloids, Flavonoids, Tannins, Reducing sugars and phenols. **Conclusion:** *Epipremnum aureum* comprises bioactive compounds in higher amount and possess pharmacological values such as antibacterial, antifungal, antioxidant, antitermite activity useful for the treatment of various diseases.

Keywords: -*Epipremnum aureum*, phytochemicals, secondary metabolites.

INTRODUCTION

The plants that are showing medicinal properties are useful for healing and curing of various human diseases due to the presence of plant secondary metabolites. Secondary metabolites are naturally occurring compounds in different parts of plants like leaves, root, bark, seed, fruit and stem. Secondary metabolites are the end products of primary metabolites such as carbohydrates, lipids, proteins etc. *Epipremnum aureum* plant is common indoor plant and also having different secondary metabolites such as Alkaloids, Flavonoids, Tannins, Reducing sugars and phenols etc [1]. The present study was focused on the Qualitative screening of leaves of *Epipremnum aureum* in Methanolic, Acetonic and aqueous solvents.

MATERIAL AND METHODS

Collection of Plant Material

The fresh leaves of *Epipremnum aureum* were collected from region of Ahmedabad city, Gujarat, India in the month of January-2021.

Plant Extract Preparation Method

The fresh leaves were washed with tap water and air dried for 8 days and crushed into electric mixture and form powder from air dried leaves. For further use powder was stored in airtight bottle [2]. The powdered sample were subjected to successive extraction with solvent such as Methanol, Acetone and Aqueous. 5gm plant powder material was taken and dissolve in 100ml solvent (Methanol, Acetone, Aqueous) in the conical flask. Cover the conical flask with the help of aluminium foil after that put on the shaker for 24 hours so all phytochemicals are dissolve gradually. The solution were filtered with the help of whatmann filter paper no.1. Then, extract filled allowed it to evaporate the solvent for 2 days. The filtrate obtained was used as

extract after drying at room temperature [3].
After 1 day we got the crude extract.

Qualitative Analysis of Secondary Metabolites [Table 1][4]

Test for alkaloids

0.03mg extract were dissolved individually in 30ml Methanol, 30ml Acetone and 30ml distill water.

Dragendroff's Test

2ml of Dragendroff's reagent was added in 1ml of filtrate; A reddish brown precipitate indicate the presence of alkaloids.

Wagner's Test

2ml of Wagner's reagent was added to 1ml of filtrate; A brown precipitate indicate the presence of alkaloids.

Test for Flavonoids

Concentrated H_2SO_4 Test

Few ml of extract was mixed with sulphuric acid. The formation of yellow orange indicates the presence of Flavonoids.

Test for Phenols

Ferric chloride test

Few mL of extract was mixed with 2-3 drops of 5% ferric chloride solution. Formation of dark green/bluish colour indicates the presence of phenols.

Cartenoids test

Few gm extract was mixed with 10ml chloroform, vigorously shaken and add concentrated sulfuric acid. Formation of blue colour at interface indicate the presence of phenols.

Reducing Sugar Test

Fehling's Test

1mL each of *fehling's solution A & B* was treated with 1mL filtrate and boiled in water bath; A red precipitate indicate the presence of reducing sugar.

Preparation of Fehling's solution[5]

Solution A-34.66gm copper sulphate, distilled water to make final volume 100mL

Solution-B-173gm potassium sodium tartarate, 50gm NaOH, distilled water to make 100mL.

Tannin's Test[6]

A) 10% NaOH test:

0.4ml of plant extract was treated with 4mL 10% NaOH and shaken well; Formation of emulsion indicate the presence of Tannin.

Protein and Amino acid's Test[7]

Million's Test:

Few ml of filtrate was treated with 3 drops of Million's reagent. Formation of white precipitate indicate the presence of protein and amino acid.

RESULT AND DISCUSSION

The results demonstrate the presence of secondary metabolites which are useful in medicinal and in physiological activities. As per results of qualitative analysis of leaves; extract of methanol showed the presence of Alkaloids, Flavonoids, Reducing sugar and Tannins [8-9].

Extract of Acetone showed the presence of Alkaloids, Flavonoids and Tannins. Extract of Aqueous showed the presence of Alkaloids and Tannins.

Table 1: Showing Qualitative analysis of secondary metabolites in methanol, Acetone and Aqueous extract of leaves.

Phytochemicals	Tests	Part of <i>Epipremnum aureum</i>		
		Leaves		
		Methanol	Acetone	Aqueous
Alkaloids	Dragendroff's Test	+	-	-
	Wagner's Test	-	+	+
Flavonoids	Conc. H_2SO_4 Test	+	+	-
Phenol	Ferric chloride Test	-	-	-
	Caretonoids	-	+	-
Reducing sugar	Fehling's Test	+	-	-

Tannins	10% NaOH Test	+	+	+
Protein and Amino acid	Million's Test	-	-	-

(+) indicates presence and (–) indicates absence.

CONCLUSION

Epipremnum aureum is an indoor ornamental plant and also has various secondary metabolites such as Alkaloids, Flavonoids, Reducing sugars, Tannins, Phenols etc. Due to presence of various secondary metabolites *E.aureum* have various medicinal properties.

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