



Preliminary Phytochemicals analysis of *Sphaeranthus Amaranthoides* Linn.

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Abstract

Sphaeranthus amaranthoides Linn. belongs to the family Asteraceae is commonly called as “Sivakarantai” used as a remedy for the eczema, blood disorders, stomach worms, filaria, fever, skin diseases, anti-helminthes and jaundice. The medicinal plants were air dried, powdered and extracted with ethanol and aqueous. The qualitative phytochemical analysis of plant extracts were carried using standard methods. The result of the selected plants contain alkaloids, flavonoids, terpenoids, carbohydrates, cardiac glycosides, phenols, tannins, saponins, quinones and anthraquinones.

Keywords: Preliminary phytochemicals; *Sphaeranthus Amaranthoides*, Sivakarantai

1. INTRODUCTION

Medicinal plants are big source of information for a wide variety of chemical constituents which could be developed as drugs with precise selectivity [1]. These are the reservoirs of potentially useful chemical compounds which could serve as newer leads and clues for modern drug design [2]. The most important of these bioactive constituents of plants are alkaloids, tannins, flavonoids and phenolic compounds [3]. Nature is a unique source of structures of high phytochemical diversity representing phenolics (45%), terpenoids and steroids (27%), and alkaloids (18%) as major group of phytochemicals [4].



Study Plant: *Sphaeranthus amaranthoides*

Sphaeranthus amaranthoides Linn. belongs to Asteraceae family. It is commonly known as Sivakarantai in Tamil. It is found particularly in Tanjore, Tirunelveli, Southern Mysore and Travancore area [5]. It is one of the kaya

kalpa drug and possess anti-oxidant property. Theran and agathiar gunavagadams have illustrated its use in treating vadh disease, eczema, vomiting, abdominal discomfort and make body shine [6]. The juice of the leaves has the properties of detoxification of Mercury. Hence, the aim of the present study was preliminary phytochemical analysis of the selected medicinal plant *Sphaeranthus amaranthoides* Linn. and identifying their chemical constituents.

2. MATERIALS AND METHODS

The *Sphaeranthus amaranthoides* Linn. was collected near Srivaikuntam area and identified. The collected samples were cleaned and shade dried at room temperature for a week. The dried and powdered materials of the selected plant was extracted with ethanol by cold percolation method for 48hrs and also extracted with distilled water for 48 hrs. The Extract was filtered and the filtrate is used for qualitative analysis of phytochemicals present in *Sphaeranthus amaranthoides* Linn. and the results are given in Table

3. RESULTS AND DISCUSSION

The results of the phytochemical analysis of *Sphaeranthus amaranthoides* Linn. was given in Table 1. The positive sign (+) denote the presence of phytochemicals and negative sign (-) indicate the absence of phytochemicals. From the table, we know that alkaloids, flavonoids, phenolic compounds, tannins, carbohydrates, cardiac glycosides and coumarins were present whereas quinone is absent. But in saponin test, foam formation is observed more in ethanol extract than aqueous extract. This is comparable with values reported for several medicinal plants such as *Gynandropsis*



gynandra and *Buchholzia coriacea* [7]; *Erythrina senegalensis* [8]; *Vitex negundo* [9]; *Terminalia glaucescens* [5]. The various phytochemical compounds detected are

known to have beneficial importance in medicinal sciences. Further investigation of the biological activities of the plant is being carried out.

Table - 1: Qualitative analysis of the phytochemicals of the medicinal plant

S.No	Phytochemicals	Tests	Observation	Ethanol Extract	Aqueous Extract
1	Alkaloids	Mayer's Test (Extract + Conc. HCl + Mayer's Reagent)	A creamy white precipitate	+	+
2	Flavonoids	Alkaline Reagent Test (Extract + 2% NaOH)	Yellow colour is formed	+	+
3	Phenolic compounds	Ferric Chloride Test (Extract + 10% FeCl ₃)	Green colour is formed	+	+
4	Saponins	Froth formation Test (Extract + Distilled Water)	Foam is formed well in alcohol extract than aqueous extract	+	-
5	Tannins	Braymer's Test (Extract + Distilled Water + 10% FeCl ₃)	Green colour is formed	+	+
6	Carbohydrates	Molisch's Test (Extract + conc. H ₂ SO ₄ + alcoholic solution of α - Naphthol)	A violet colour is formed	+	+
7	Quinones	Sulphuric Acid Test (Extract + Isopropyl Alcohol + Conc. H ₂ SO ₄)	Red colour is not formed	-	-
8	Cardiac glycosides	Keller - Killani Test (Extract + glacial Acetic Acid + FeCl ₃ (5%) + Conc. H ₂ SO ₄)	Brown ring is formed	+	+
9	Coumarins	Sodium Hydroxide Test (Extract + 10 % NaOH)	Yellow colour is formed	+	+

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