

Research Paper

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## **Phytochemical Screening of *Blumeaeriantha* Dc. and *Sphaeranthusindicus* L.**

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### **Abstract**

The aim of the present study was qualitative phytochemical screening of aqueous and methanolic extract in leaves of *Blumeaeriantha* DC and *Sphaeranthusindicus* L. belongs to Asteraceae family. This genus includes various species which are used in preparation of traditional and endemic medicines. *Blumeaeriantha* is known to show anti-diarrheal, anticancer and anti-diabetic activity while *Sphaeranthusindicus* was found to possess powerful medicinal properties to cure skin infection, liver disease, jaundice, bronchitis. The phytochemical screening of aqueous and methanolic leaf extracts revealed the presence of various secondary metabolites such as alkaloids, phytosterols, phenolic compounds, tannins, flavonoids, terpenoids and saponins.

Keywords: *Blumeaeriantha* DC, *Sphaeranthusindicus* L., phytochemical screening.

### **Introduction**

"A medicinal plant" which contains organic compound can be used for therapeutic purpose in the

form of drugs. The Medicinal plants have great value which gives a significant physiological action in human body (Edeogaet *al*, 2005). The medicinal plants have backbone of traditional herbal medicine. More than 400 different plant species are listed for medicine and their medicinal values in Ayurveda, Unani, Homeopathy, Sidhha. Phytochemical means 'phyto-from Greek - phyto meaning 'plant'. Generally, plant chemical that are protecting the plant cell from environment risk like stress, pollution, and UV exposure (Mamta s. *et al*, 2013). Phytochemicals are classified mainly in two groups primary metabolites and secondary metabolites. The Medicinal plants have variety of phytochemicals such as carbohydrate, proteins, amino acids, alcohols, oils, tannins, saponins, glycosides, Phenol and flavonoids.

The *Blumeaeriantha* Dc and *Sphaeranthusindicus* L. belongs to Asteraceae family. *Blumeaeriantha* is an aromatic, small annual herb, height upto 1 m, camphor like smell, and commonly found in the road side of near forest area. It is commonly known as "Nirmundi" and "Kukronda" (Singh et al.,2011).*Sphaeranthusindicus* is small aromatic herb, height 15-30 cm, reddish-purple of ovoid heads or solitary glandular peduncles with toothed wings. The plant grows in rich field, dry waste places and cultivated lands in tropical parts (Chatterjee et al.,1997 and Galani et al., 2010)

## **Material and Method**

### Collection of plant material

The whole plant was collected from motapondha region of valsad district, Gujarat in the month of January 2018. The collected plant material was identified and authenticated by Dr.Sandip Patel, taxonomist, Dr. A.P.J. Abdul KalamSilvassa College, Gujarat. Taxonomic identification was carried out in the Department of Botany, School of Science, Ahmedabad.

### Preparation of Sample

Fresh leaves and stem of *Blumeaeriantha* and *Sphaeranthusindicus* were washed in water and naturally air dried at room temperature for 10-15 days. Then make fine powdered with the help of mixer grinder and store in air tight bottles.

### Preparation of Extraction

Dried samples powdered were weighted 10 gm and kept in flask containing 100 ml solvents (Methanol

and distilled water) on shaker at room temperature. After 24 hours the solution was filter using Whatman no 1 filter paper and allowed it to evaporate at the room temperature.

## Result

### Qualitative analysis

The Qualitative screening of *Blumeaeriantha*Dc. and *Sphaeranthusindicus*L. was performed according to standard protocol by harborne 1998, kokate 1999, Raaman 2000. The present phytochemical constituents are shown in table 1.

Phytochemicals	Tests	Aqueous		Methanol	
		<i>Blumea</i>	<i>Sphaeranthus</i>	<i>Blumea</i>	<i>Sphaeranthus</i>
Alkaloids	Mayer's test	++	+++	+	+
	Wagner's test	++	+++	++	++
	Dragendroff test	++	+++	+	++
	Hager's test	++	+++	+	+
Carbohydrates	Molish test	-	-	-	-
	Fehling test	-	-	-	-
	Barford test	-	-	-	-
	Bendict test	-	-	-	-
Flavonoids	Alkaline reagent test	+++	++	+++	++
	Lead acetate test	++	++	+++	++
Saponin	Froth test	+	+	-	-
	Foam test	++	++	-	-

Terpenoids	Salkowski test	+++	-	+++	-
	Copper acetate test	++	-	+++	-
Phenols	Ferric chloride test	+++	++	+++	+++
	Gelatin test	+++	++	++	++
Tanins	Ferric chloride test	++	++	++	++
	Legal's test	+	+	-	-
Glycosides	Kellakiliani test	+	+	-	-
	Salkaouski's test	++	+	++	+
Phytosterols	Lieberman burchard's test	+	+	+	+

Table 1: Qualitative screening of *Blumeaeriantha*Dc. and *Sphaeranthusindicus*L. (+=present, - = absent)

### Conclusion

This present study concluded that the phytochemical of *Blumeaeriantha* has alkaloids, flavonoids, terpenoids, phenols, tannins, phytosterols are present while saponins and glycosides are present only in aqueous extract, but carbohydrate is absent in both extracts. In aqueous and methanolic extract of *Sphaeranthusindicus* alkaloids, flavonoids, phenols, tannins, phytosterols are present while saponins and glycosides are present only in aqueous extract, but carbohydrate and terpenoids are absent in both extracts.

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