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A COMPARATIVE PHYTOCHEMICAL ANALYSIS OF BOUGAINVILLEA GLABRA CHOISY AND CALFORINA GOLD

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ABSTRACT

The present study was undertaken to find out the phytochemicals present in *Bougainvillea glabra* flowers extract and comparative study between B.glabra 'choisy' and B. glabra 'californina gold'. Fresh flowers and bracts of botanically identified plant was collected and were processed for preparation of plant extract using specified technique.The plant extract was then subjected for different qualitative chemical tests to investigate the chemical profile of *B.glabra* extracts. Analysis showed the presence of alkaloids, Flavonoids, phenolic compounds and tannins in the extact as confirmed by implying different qualitative tests specified for these phytochemicals.

KEYWORDS: Bougainvillea glabra, , phytochemicals

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INTRODUCTION

Phytochemicals are bioactive substances of plants that have been associated in the protection of human health against chronic degenerative diseases (Fukumoto et al.,2000).
The major groups of phytochemicals that may contribute to the total antioxidant capacity (TAC) of plant foods include polyphenols, carotenoids and the traditional antioxidant vitamins such as vitamin C and vitamin E. The vitamins are, however, not the only phytochemicals that can have a positive effect on the health of consumers. There are other phytochemicals present in plant foods that may have positive effects on the health of consumers and need further investigation. These phytochemicals may be present in small amounts but may be very important to the health of consumers(Benzie et al 1999).

"Phyto" is the Greekword for plant. There are many "families" of phytochemicals and they help the human body in a variety of ways. Phytochemicals may protect human from a host of diseases. Phytochemicals are non-nutritive plant chemicals that have protective or disease preventive properties. Plant produces these chemicals to protect itself but recent research demonstrates that many phytochemicals can protect humans against diseases. There are many phytochemicals in fruits and herbs and each works differently. (A.Kumar .,et al 2009)

Bougainvillea is a very common ornamental plant grown almost all over the world in tropical and subtropical gardens. It is grown as a shrub as well as a climber. It belongs to the family *Nyctaginaceae* which has ten species, hut only three species *B, spectabilis, B. glabra* and *B. peruiana* are horticulturally important. The bougainvillea flower is a true, perfect flower that is surrounded by showy, vibrant bracts the colourful bracts are in facts, not petals but modified leaves, adapted to attract pollinators to the colourless and scentless flowers residing on the upper surface (Kobayashi *et al.,* 2007). The leaves of Bougainvillea glabra are reported to have anti-inflammatory activities (Joshi *et al.,* 1984) anti hyperglycemic activity (Oudhia P., 2005) insecticidal activity (Simmonds M.S.J. *et al*., 2006), anti hyperglycemic activity (E Edwin et al., 2006) anti ulcer antimicrobial and anti-diarrhoeal activity (Edwin E *et al.,* 2007).And its antiviral protein was characterized by (Balasaraswathi *et al.,* 1998). Bougainvillea glabra have been used by the traditional practitioner of Mandsaur in variety of disorders like diarrhea, reduces acidity, cough and sore throat decoction of dried flowers for the blood vessels and leucorrhoea and decoction of the stem in hepatitis. The main part used is leaves (Yosef S *et al.,* 2001). Hence, the present study has been made to investigate the phytochemical screening of the *Bougainvillea glabra and comparative study between B.glabra choisy and B.glabra calforina gold.*

MATERIAL AND METHODS

Bougainvillea glabra choisy and Bougainvillea California gold flower along with bracts were collected from Guru Govind Singh nursery, Bhopal .The flower were removed from stalk and weight was taken then the flower were dried under shade at room temperature. Then the flowers were powdered and weights of powdered were taken and the powders were stored in sterile container for further use.

Extraction preparation

Then dried powder was taken into soxhlet apparatus for 72 hr according to successive solvent extraction using hydroalcohlic (50:50) solvent .Afterwards, the solvents were removed and the extracts obtained were stored.

Qualitative phytochemical screening

Following different qualitative chemical tests were performed to investigate the chemical composition of *B.glabra 'choisy 'and 'californa gold 'extracts* as describe by Kokate and Harbone.

1. 1, Detection of **Carbohydrate: By** Molish test and Barfoed's test
2. Detection of **Starch : By** iodine test
3. Detection of **Protein: By** millions test **and** Xanthoprotein test
4. Detection of **Steroid**: By Salkowski test
5. Detection of **Glycosides : By** keller-killiani test
6. Detection of **Flavonoids**
7. Detection of **Alkaloid : By** Mayer's test and Wangers test
8. Detection of **Phenolic compounds and tannins: By** ferric chloride test
9. Detection of **Sulphate**
10. Detection of **Carbonate**
11. Detection of **Nitrate**

RESULT AND DISCUSSION

Results of phytochemical screening showed the presence of a number of secondary metabolites including tannins, sponins, flavonoids and alkloids.

Table 1

shows the qualitative analysis of phytochemicals present in B.glabra choisy and B. glabra California gold.

S. No.	Test	B.glabra (choisy)	B.glabra(californa gold)
1	**Carbohydrate**		
	a) Molish test	-	-
	b) Barfoed's test	-	-
2.	**Starch**		
	a) iodine test	-	-
3.	**Protein**		
	a) millions test	+	+
	b) xanthoprotein test	+	+
4	**Steroid**		
	a) salkowski test	+	+
5	**Glycosides**		
	a)keller-killiani test	+	+
6.	**Flavonoids**	+	+
7	**Alkaloid**		
	a)Mayer's test	+	+
	b)wangers test	+	+
8	**Phenolic compounds and tannins**		
	a)ferric chloride test	+	+
9	**Sulphate**	-	-
10	**Carbonate**	+	-
11	**Nitrate**	-	-

(+ sign indicate presence) and (– sign indicate absence)

CONCLUSION

Phytochemical analysis showed the presence of alkaloids, flavonoids, phenolic compounds and tannins in the extact as confirmed by implying different qualitative tests specified for these phytochemicals.

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