



QUALITATIVE PHYTOCHEMICAL ANALYSIS OF ETHANOMEDICINALLY IMPORTANT PLANT *CAPPARIS APHYLA* ROTH (CAPPARIDACEAE) FROM AKOLA DISTRICT, MAHARASHTRA, INDIA

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ABSTRACT

The present paper is focus on preliminary analysis of *Capparis aphylla* Roth., (Caper plant) from Akola District Maharashtra, India. The plant has tremendous ethnic medicinal value. Quantitative analysis of *Capparis aphylla* was done in various solvents. It showed presence of maximum phytoconstituents in aqueous extract. The major phytochemicals present in this plant include Alkaloids, Flavonoids, Tannins, Saponin and Phenolic while steroids are not detected in any solvent system.

KEY WORDS: *Capparis aphylla*, Phytoconstituents and Ethnic medicinal value.

INTRODUCTION

World plant biodiversity is the largest source of herbal medicine and still about 60-80% world population rely on plant based medicine which being used since the ancient ages. As traditional health care system, it is now clear that the medicinal value of this plant lies in the bioactive phytochemical constituent that produce definite physiological effect on human body. These natural compounds signify the base of modern drugs as we use today.

Phytoconstituents are the natural bioactive compounds found in the plants. These phytoconstituents work with nutrients and fibers to form an integrated part of human defense system against various disease and stress condition. Phytochemicals are basically divided into two groups i.e. primary and secondary constituents according to their function in the plant metabolism. Primary constituents comprise common sugars, amino acids, proteins and chlorophyll. While secondary constituents consist of alkaloids, flavonoids, saponin, phenolics and so on.

The present study revealed the qualitative phytochemical analysis of *Capparis aphylla*, a medicinally important plant used by the people of Akola district (MS) India. *Capparis aphylla* is generally found in the semi dry regions. In India the species *Capparis aphylla* is distributed in Rajasthan, Punjab, Karnataka, Tamil Nadu and part of Maharashtra. The plant body showing xerophytic character like absence of leaves, development of thorn on branches etc. The stem is aerial, erect, woody and green.

MATERIALS AND METHOD

Material collection and sample processing

The plant material was collected from the local area and identified taxonomically in the Department of Botany Shri Shivaji College, Akola (MS). The voucher specimen was deposited in the departmental herbarium.

The stem and lateral branches of the plant are properly washed in tap water and then rinsed in distilled water. The

rinsed branches are dried under shade for 5-6 days and powdered for further experimentation.

Qualitative analysis of phytoconstituents

Preliminary photochemical tests of aqueous extract / powdered sample of plant was carried out as describe Harborne (1973) and Krishnaiah et al., (2009).

RESULT AND DISCUSSION

The present investigation was carried out on *Capparis aphylla* to study the presence of medicinally active phytochemicals in the stem of *Capparis aphylla* plant from Akola district (MS) India. The ethnomedicinal information was collected from the local peoples and tribals from the study area. It was found that the tribals use this plant to cure rheumatism, arthritis, dysentery and skin eruption. It was also found that some local peoples use this plant against urinary disorders.

The results of qualitative phytochemical analysis is summarized in the table 1. For the qualitative analysis, the sample was extracted in five different samples (Chloroform, Methanol, Petroleum ether, Acetone and Water). The aqueous extract was found to show most of the phytochemicals present in the plant. Alkaloids, Flavonoids, Phenolics, Carbohydrate, Tannin and Saponin are present in the plant (Table-1). The Phlobatannins test is found positive only in chloroform extract while that of saponin in aqueous extract (Table-1).

The present results indicate that, the plant has diverse phytochemicals which might have responsible for its medicinal potential. Edioga et al., (2005); Kawale (2009); Koche et al., (2010) and Koche (2011) investigated various phytochemicals present in the wild medicinal plants and relate them with the medicinal potential of the plants. However, the plant needs further phytochemical and pharmacological study to develop useful drugs from the plant.

Table 1: Preliminary phytochemistry of *Capparis aphylla* Roth

Solvent	Alkaloid	Flavonoid	Phenolics	Tannins	Phlobatannin	Saponin	Carbohydrate
Chloroform	+	+	-	+	+	-	+
Methanol	+	+	+	+	-	-	+
Acetone	+	+	-	-	-	-	+
Petroleum ether	+	+	+	-	-	-	+
Aqueous extract	+	+	+	+	-	+	+

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