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**PHYTOCHEMICAL SCREENING OF THE BARK OF *BAUHINIA PURPUREA*****NEEMA NOORDHEEN, DR. C. BEENA**

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**Abstract:** India is endowed with a rich wealth of plants. Plant derived natural products continue to be extremely important to mankind as source of pharmaceuticals, foods, pesticides, dyes, industrial oils, flavours, fragrances and many other specialty products. In general secondary metabolites produced by the plant are responsible for many of the medicinal effects. But many plants are still left with little attention. From the perspective of phytochemistry extensive opportunities exist for basic research on our wide flora of Indian plants to study their phytochemical makeup. Hence we have taken up the present study to screen the bark samples of *Bauhinia purpurea* Linn for its phyto constituents and discuss the potentials of the plant as herbal medicine. *Bauhinia purpurea* Linn also known as Mountain Ebony (Chuvanna Mandaram in Malayalam) is a plant with attractive pink flowers found in India and Pakistan. It belongs to Fabaceae or Gulmohar family. Though known and grown widely as a garden tree it has got many traditional medicinal uses. The traditional healers apply a paste made of bark, root as well as flowers to treat skin diseases. It is effectively used by tribals for the treatment of malaria, dysentery, diarrhoea and liver diseases. Bark decoction is used as an astringent and a blood purifier. The inner bark gives a fibre used for ropes. The results of the phytochemical screening studies of the water as well as methanolic extracts of the bark of *Bauhinia* revealed that bark mainly contains alkaloids, phenols, saponins, glycosides, flavanoids, sterols, lignins and tannins. Carbohydrates and proteins were found to be absent. The medicinal properties of the plant bark may be attributed to the presence of these secondary metabolites.

**Key words:** *Bauhinia purpurea*, Phytochemical study

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**Introduction:** India is endowed with a rich wealth of plants. Plant derived natural products continue to be extremely important to mankind as source of pharmaceuticals, foods, pesticides, dyes, industrial oils, flavours, fragrances and many other speciality products. In general secondary metabolites produced by the plant are responsible for many of the medicinal effects [1]-[2]. But many plants are still left with little attention. From the perspective of phytochemistry extensive opportunities exist for basic research on our wide flora of Indian plants to study their phytochemical makeup. Hence we have taken up the present study to screen the bark samples of *Bauhinia purpurea* Linn for its phytoconstituents and discuss the potentials of the plant as herbal medicines. *Bauhinia purpurea* Linn also known as Mountain Ebony (Mandaram in Malayalam) is a plant with attractive pink flowers found in India and Pakistan. It belongs to Fabaceae or Gulmohar family. *Bauhinia* trees typically reach a height of 6-12 m and their branches spread 3-6 m outwards [3]. Though known and grown widely as a garden tree it has got many traditional medicinal uses. The traditional healers apply a paste made of bark, root as well as flowers to treat skin diseases. It is effectively used by tribals for the treatment of malaria, dysentery, diarrhoea and liver diseases. Bark decoction is used as an astringent and a blood purifier. The inner bark gives a fibre used for ropes [4]-[5].

**Materials and methods:** Healthy disease free, mature fresh bark of *Bauhinia purpurea* which belongs to the family Fabaceae was collected from

Kerala Agricultural University, Thrissur Campus and authenticated by botanist. The bark samples were air dried and powdered using mixer grinder. 10% aqueous as well as methanol extract were prepared for various analysis. The extracts were filtered and concentrated and used for screening of phytochemicals such as alkaloids (Iodine-wagner and Dragendorff's tests), flavonoids (pew's, schinoda and NaOH tests), glycosides (Keller- kiliani, con.H<sub>2</sub>SO<sub>4</sub> and Molisch's test), lignins (Labat and Lignin tests), phenols (Ellagic acid and phenol tests), saponins (foam and haemolysis tests), sterols (Lieberman-Burchard, and Salkowski tests) and Tannins (gelatin test) using standard methodologies [6]-[7].

**Results and discussion:** The results of the screening studies of the water as well as methanolic extracts of the bark of *Bauhinia* are tabulated in (Table-1). It revealed that bark mainly contains alkaloids, phenols, saponins, glycosides, flavanoids, sterols, lignins and tannins. Carbohydrates and proteins were found to be absent+ indicates presence, - indicates.

the absence The curative properties of medicinal plants are mainly due to some secondary metabolites. Different phyto chemicals are having wide range of therapeutic effects. For example saponins, flavanoids, alkaloids etc can give protection from chronic diseases. Glycosides can exert hypoglycemic effects. Sterols and alkaloids can impart anti inflammatory effects. Steroids and saponins can affect central nervous system activities [8]. Screening of the bark showed the presence of some important group of components like phenols, tannins, sterols,

Sl. No:	Plant constituent	Methanol extract	Water extract
1	Alkaloid	+	+
2	Carbohydrates	-	-
3	Glycosides	+	+
4	Saponin	+	+
5	Proteins	-	-
6	Phenolic compounds	+	+
7	Flavanoids	+	+
8	Sterols	+	+
9	Lignins	+	+
10	Tannins	+	+

saponin, alkaloids and glycosides in it. It should be noted that steroidal compounds are of importance and interest in pharmacy due to their relationship with many hormones [9]. The medicinal properties *Bauhinia* bark may be due to presence of these elucidate the structure of the bioactive compounds.

compounds. Further in depth studies are in progress to identify the specific active ingredients. The plant, *B. purpurea* studied here can be considered as a potential source of useful drugs. Further studies are going on in order to isolate, identify, characterize and

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