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A magical herbal plant of Himalaya- *Viola canescens*

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Abstract

Viola canescens Wall.Ex Roxb; a Himalayan White Violet from Violaceae family commonly named as"banaksha." It mostlygrows in shady and moist places. It is found in Himalayan region of India, Bhutan and Nepal. It is traditionally used to treat cough,cold, fever, flu and malaria. The most unique property of this herbal plant is given as anti-cancerous drug. Methyl salicylate, alkaloid Violin, glycosides and saponins are chemical constituents present in the Viola canescens .Violin is the crude extract of alkaloid present in the roots of this plant which having emetic properties. It is used to treat pain and laxative in traditional medicinal system. Overall it is magical herbal plant used to cure many diseases such as carminative, diaphoretic and have purgative properties. Due to the overuse of medicinal plants along with V.canescensare going to extinct.So it is important to conserve all medicinal plants and taken preventive measures for it.

Viola canescens
Scientific classification
Kingdom: Plantae
Order :Malpighials
Family :Violaceae
Genus : Viola

KEYWORDS: Viola canescens, Banaksha , Medicinal plants, Traditional knowledge.

I. INTRODUCTION

India has enormous diversity of medicinal plants. Medicinal plants have been greatly used as natural medicines. Medicinal plant contains various chemical constituents which is used in various medicines and in the synthesis of useful drugs.

Viola is genus of flowering plants in the violet family Violaceae. It is the largest genus in the family,containing between 525 and 600 species. Most of the species are found in the temperate northern hemisphere. Viola species are perennial plants, some are annual plants, and few are small shrubs .

There is vast presence of Viola canescens and Viola serpens in Himachal Pradesh which is locally named as ‘’banaksha".

The complete botanical name is *Viola canescens Wallich ex Roxburgh*. Its synonym is Viola serpens Wall.exGing. var. canescens (Wall.) Hook F. and Thomson.

Viola canescensWall.exRoxb., commonly called as Himalayan white violet, belongs to Violaceae family.It is found in the Himalayan region of Pakistan, India, Bhutan and Nepal. It is perennials herb which is mostly grows in shady and moist places. It is an important medicinal plant which is used in traditional system for cough, cold, flu, fever and malaria. It is also given as anticancerousdrug.

II. DISTRIBUTION

In Himachal Pradesh, it is found in every hilly district. It is also found in Pangi valley of chamba district in the cold desert of Himalaya, also known as Trans Himalayan region.It is also present over the moist places of Chowki, Karsog and Padhar regions of district Mandi.

MORPHOLOGY

*Viola canescens wall. Ex Roxb*is a prostrate, sub glabrous, hairy perennial herb. It has a long, much branched and cylindrical root system. Stem is missing.

A. Leaves are ovate and are broad and covered with down or fine hairs.Stipules are present freely. Leaves may be cordate that is heart shaped with pointed at the apex and notch at the base. The margins of leaves are serrate-crenate (having tooth like projections). The length of leaf petiole is approximately double the lamina.
B. Flowers: In Viola canescens flowering period ranges from March to June and it produces small pale violet to white flower during this period .Flowers are present on the erect peduncle and covered with the fine hairs (pubescent). The length of peduncle is 5-15cm long and two bracteoles are present which may be opposite. Flowers are tiny with size of approximately 1.0-1.8cm. Petals are obovate with broad extremity located away from base and also obtuse. The length petal is 15mm and 4.0mm broad. The sepals are lanceolate that is much longer than wider and are unequal. They are five in number.
C. Pollengrains: Two distinct types of pollen grains are present in Family Violaceae that is, viola stocksii type and viola pilosa type.*Viola canescens* has pilosa type of pollen grains.The shape of pollen is subprolate.Three grooves or colpus are present on pollen so they are tricolporate.

Chemical Constituents: The phytochemicals found in *V. canescens* are methyl salicylate, alkaloid violin, saponins and glucosides. An alkaloid is discovered by Boullay(1828) in the roots known as violin which are similar to emetine(white crystalline bitter alkaloid that induces vomiting)and it is present in the plants in combined form with a melic acid. Violin is a cream colored, bitter taste powder and if it is heated it melts and then burns like resins.

Pharmacological Activities: Antimalarial activity and anti protozoal activities were studied in viola *V. canescens.* The anti protozoal activity and cytotoxic activity were recorded from Garhwal region of India. Four extract of the plant *V. canescens* are obtained. Extracts were tested at different concentrations. The petroleum ether extract of *V. canescens*showed a good activity against LeishmaniaDonovani. The cytotoxic activity was also checked on the infected rat skeletal mioblasts(L-6cells) to obtain information about selectivity of extract. The antimalarial activity of *V. canescens* was also studied in the Garhwal region of North Western Himalaya. All extracts of V. canescens were non cytotoxic except petroleum ether extract of *V. canescens*. Petroleum ether extract of *V. canescens* shows that it inhibits the action of parasite in the blood as compare to the control. The ethanol extract of *V. canescens* is a good purgative and it is used for the purpose in traditional medicines.so the crude extract of this plant can be used in pain reliever and laxative in traditional medicinal system.

III. Ethnomedicinal Aspects of *V.canescens*

V.canescens was found to have carminative(relieving discomfort of gas in digestive system), demulcent(a smoothing medication used to relieve pain in inflamed tissue), astringent ,antipyretic(reduces fever), diaphoretic(agent that induces sweat), and purgative properties .In many areas local people or herbal practitioner use the plant extract against an acute or chronic inflammation of skin(eczema), epilepsy,stomach acidity and cure various respiratory problems .In other parts of world various peoples also use leaf paste along with brown sugars to cure cough and respiratory problems. Plant is anti-cancerous in action and used to treat various nervous disorders. Flowers are mainly used as medicine. For respiratory tract problem, the decoction of flower along with cinnamon, clove and fennel have been great in practiced.

It was reported that *V.canescens* is used in Himachal Pradesh and 8-10gm of powdered dried flower and leaves is used with warm water early in the morning to cure dysentery.The flower of banaksha is boiled in water to make infusion,which is used as tea to cure cold, cough and fever. It is also given to treat bronchial asthma.

IV. Threat and Conservation

Due to overuse various medicinal plants along with *V.canescens* are vulnerable to extinction .so it is important to conserve all medicinal plants. Due to excessive use of the parts of plant of *V.canescens* for medicinal purpose is major cause in a decline in its population .some other authors have reported that the loss of habitat, change in environments, overexploitations, extensive grazing , deforestation and attack of pathogens are liable for making *V.canescens*endangered . Factors like grazing and fodder collection,soil erosion,introduction of invasive species and overexploitation of plant species all are responsible for declining of population of *V.canescens*.

By documentation of the native knowledge, training of local communities and development of monitoring program are the various measures that reduce the risk of extinction of *V.canescens*.

So it is important to provide conservation education to local communities and that medicinal plants should be used sustainably to ensure community mobilization.

In situ and ex situ conservation method should be applied to avoid the extinction of important plant species by protecting plants in their natural habitats and by cultivating them and again reintroducing them in the natural environment.

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