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MACROSCOPIC CHARACTERISTICS AND *PANCHBHAUTIK PARIKSHAN* COMPARED BETWEEN WILD AND MARKET SAMPLES OF *PADMAK* STEM BARK

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ABSTRACT

Herbal medicines are significant and reliable sources for treating various diseases. Plant have been the basis for medicinal treatment since the beginning of human farming. There is an increasing demand for plant-based medicines, health products, pharmaceuticals, food supplements cosmetics etc. *Dravyaguna* is the specialized branch of *Ayurvedic* pharmaceutics that provide us variety of effective information. *Panchbhautik parikshana* of *dravya* is an examination tool, which is used for differentiating the *dravyas. Panchbhautik Parikshana* elaborated in simple ways by *acharya charaka* in *Sutrasthana,* which results to be beneficial for today's ayurvedic practitioners. Authenticity of any market sample was checked out through physico-chemical, Pharmacognostical, phytochemical evaluation as well as through qualitative parameters like TLC, HPTLC, HPLC etc. by means of this parameter issues like adulteration substitution can be lower down as well as effectiveness of Ayurvedic formulation rises.

KEYWORDS: *Padmak*, Prunus Cerasoides, *Panchbhautik Parikshan*, *Vedanasthapana,* Adulteration, Organoleptic.

INTRODUCTION

In India *Ayurveda* medicinal system is based on herbs. herbal medicines also known as herbalism or botanical medicine is the use of herbs for their therapeutic or medicinal values. Herbal medicines are significant and reliable source for treating various diseases. Herbal plants produce and contain a variety of chemical substance that acts upon body.

Nowadays world markets are turning towards plants as source of ingredients in manufacturing health care products. Secondary metabolites obtained from the plants are found to be an important source of various phytochemicals that could be used directly or as an intermediate for the production of pharmaceuticals, in food or drink supplements as well as in the form of preservatives. In the developing countries approximately 80% of the population still rely on the traditional medicine derived from the plants for health care needs. Thus, the demand for herbal medicines is continuously increasing day by day due.

*Padmak (*Prunus Cerasoides) is one such valuable medicinal herb, it is commonly known as *Padmaakh*, *Padmkastha*, *Paiyaan*, Bird Cherry is one of the important medicinal herbs of family Rosaceae.

It is a big tree with pinkish flowers and grows upto 30-60 ft. height and found in Himalayan Range. It is a plant of *Vedanasthapana Mahakashaya* (group of herbs useful in relieving pain) described in *charak Samhita* and also included in *kapooradivarga* in *Bhavprakash,* which is used extensively in most of the Ayurvedic preprations.

A stem bark contains flavanone, sakuranetin, Prunatin, Isoflavanone and Padmkastin. It is used in the treatment of stone and gravels in the kidney, bleeding disorder, burning sensation and skin disease. It is best anti-abortifacient. The stem combination with other drugs is prescribed in snake bite and scorpion stings. In Indo-China the bark is used in dropsy. The flowers are considered diuretics and laxatives.

The seeds are used as anthelmintic. it is an Ayurvedic herb used for the treatment of skin disease, increases the complexion. The leaf extract of Prunus Cerasoides used in prostate and urinary disorder.

MATERIAL AND METHODS

Plant Identification

Padmak stem bark (Prunus Cerasoides D.DON) was identified on the basis of its morphology and family characters of the plant.

Collection of Samples

Wild Samples(W)- *Padmak* stem bark was collected from forest area of Uttarakhand Himalaya range. Complete intact stem bark was collected without doing any harm to bark.

Market Samples(M)- *Padmak* stem bark was collected from well-known registered Ayurvedic drug Vendor.

PANCHBHAUTIK PARIKSHANA

Panchbhautik Parikshana of the specimen are observed simply by sense organs as per Ayurvedic System which has its own method of describing the characters of the specimen by the use of five sense organs (i.e. *Panchbhautik parikshana* by *panchgyanendriya Parikshana*, examination by five sense organs, according to *Indriya Panch-Panchaka*)

MACROSCOPIC EXAMINATION

Macroscopic examination is done to evaluate and compare the macroscopic characters of stem bark of *Padmak* (Prunus Cerasoides D.DON).

Two samples were subjected to macroscopic evaluation by observation with naked eyes and by tactile and other sensory inspection. A magnifying lens with a dissecting microscope was used for better evaluation of surface characters.

OBSERVATIONS

Comparative organoleptic characters of wild and market samples (W and M) of *Padmak* stem bark as shown as follows

Table No. 1: Comparative Organoleptic characters.

Characteristics	W	M
Shabda(fracture)/Granular/Soft/Fibrous	Moderately soft, closely granular	Hard
Sparsh(Touch) *Snigdha/Ruksha/Mrudu/Kathina*	*Mrudu*	*Ruksha*
Roopa(colour) shape	Brownish grey smooth and peels off in thin horizontal stripes	Dark grey, rough and doesn't peels off easily
Rasa (Taste) *Madhur/Amla/Lavana/Katu/Tikta/Kashaya*	*Kashaya/ Tikt*	*Kashaya/ Tikt/ Madhur*
Gandha(Odour) *Sugandha/ Nirgandha/Ugra/Manda/Sadharan*/Typical Odour	Typical odour	*Manda gandha*

Comparative macroscopic features of the wild and market samples (W and M) of *Padmak* stem bark as shown as follows

Table No. 2: Comparative macroscopic characters.

Characteristics	W	M
Appearance	Stem Bark	Stem Bark

Colour	Reddish Brown	Brownish Grey
Odour	Typical Odour	Typical odour
Taste	Slightly Astringent, Bitter	Bitter
Shape	Horizontal Stripes	Half Horizontal stripes
Size	20cm-50cm long and 3cm-7cm thick	5cm-15cm long and 2cm-3cm thick
Fracture	Short	Short
Texture	Glassy, Shiny	Rough

DISCUSSION

In *roopa Parikshana* the bark of wild samples of *Padmak* appears Reddish-brown in colour whereas the market sample appears Brownish-grey as it shows that colour changes according to time, duration and dryness of the sample. *Rasa* of the wild samples are *Kashaya, Tikta*, whereas market sample possess *Madhura rasa* along with *Kashaya-Tikta Rasa*.

Wild samples possess typical *gandha* and market sample has *manda gandha*. Wild samples had soft *shabda* as it was freshly collected in wet forms. Market samples has harsh *Shabda* as it is collected in dried form.

Fractures were seen in both the samples. Internal surface of the root of both the samples is yellowish cream and fibrous. Texture in market sample was strongly rough as it was dried but that of Wild samples was leathery and rough as it was freshly collected.

Fracture is seen in both samples which is short and rough edges were seen. Shape of wild stem Bark sample was horizontal except market sample which was half horizontal.

CONCLUSION

Both samples (W, M) shows resemblance with characters mentioned in API i.e. Ayurvedic Pharmacopeia of India. Wild samples possess the typical *gandha* and had the authentic *Kashaya, Tikta rasa* whereas the market sample somewhere lack in the above mentioned criteria's, and the above observation revealed that wild samples of *Padmak* is very nearer to the parameters given with API guidelines.

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