

A REVIEW STUDY ON VASTUK

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Abstract:

Chenopodium album Linn. (Bathua) belongs to the family Chenopodiaceae, is an important medicinal plant in Ayurveda used in diseases of blood, heart, spleen, eye and in biliousness conditions, cough, abdominal pain, pulmonary obstruction and in nervous affections. The plant contains essential oils, besides alkaloids, trigonelline and chenopodine. Leaves are rich in potassium & vitamin C. Pharmacognostic evaluation including examinations of morphological and microscopic characters, determination of leaf constant, ash value, powder analysis, and extractive values were carried out. Phytochemical screening including qualitative chemical examinations was also carried out. The plant has effective pharmacological action. On the basis of recent pharmacological studies some additional medicinal properties of various species of the genus have been established. In the present paper an attempt has been made to summarize the review on Vastuk.

Key words: Vastuk, Disease, Phytochemical, Ayurveda, Rakta, Raktalpata, Pandu

INTRODUCTION

Vastuk, popularly known as Bathua is a commonly used leafy vegetable in many parts of India. Amaranthus (Choulai), Spinach (Palaka), Fenugreek (Methy) and Bathua commonly form the part of leafy vegetables in Indian dietary practices.

Bathua is commonly consumed during in winter season. People usually use Bathua in form of Cooked Vegetable, Raita and Paratha with perceived benefit of easy defecation due to high fibre content but Bathua leaves are rich in iron content. It is an accepted fact that iron available from plant sources is more biocompatible than elemental mineral iron. The daily requirement of iron is expected to be mitigated through diet. Any possible deficiency should also be managed through dietary modification as a first line of therapeutic management further; dietary modification should also be in tune with traditional dietary practice in order to achieve better compliance. Therefore vegetables like Vastuk should systematically be explored in the management of Hemoglobin deficiency in Indian population.

PHYLOGENETIC CLASSIFICATION OF VASTUK

Kingdom	Plantae – Plants
Subkingdom	Tracheobionta – Vascular plants
Superdivision	Spermatophyta – Seed plants
Division	Magnoliophyta – Flowering plants
Class	Magnoliopsida – Dicotyledons
Subclass	Caryophyllidae

Order	Caryophyllales
Family	Chenopodiaceae – Goosefoot family
Genus	Chenopodium L. – goosefoot
Species	Chenopodium album L. – lambsquarters

VERNACULAR NAMES

Vernacular names of plants are a treasure of valuable observations carried out by the people over the centuries. Acharya Charaka has advised a physician to become well versed with the names and features of medicinal plants by taking the help of hunters, shepherds and cowherds⁶¹. So, the various vernacular names of Vastuk are as below:

Table -Showing Vernacular names of Vastuk:

English	Fat Hen, Lamb's-quarters, Pigweed,
Hindi	Bathua
Tamil	Paruppukkirai
Bengali	Chandanbethu
Sanskrit	Vastukh
Oriya	Bathua
Kannada	Kaduoma
Telugu	Pappukura
Malayalam	Vastuccira

Synonyms of Vastuk:

Synonyms are one of the pathways to understand or explain a drug. Synonyms were a part of descriptive methodology of ancient time having potency to guide us. The classical literature of Ayurveda mentions various synonyms of drugs, which give interesting information regarding the habit, habitat, morphological characters, properties and actions of drugs. Casting a glance on all the synonyms of Vastuk we observe the following: -

Table

क्षारपत्र	क्षाराणि पत्राणि अस्य इति । (इसके पत्र क्षार वाले लवणयुक्त होते हैं ।)
षाकराट्	षाकानाराट् षाकेशु वा राजंते गुणैः इति वा । (अपने गुणों द्वारा षाको में सुषोभित होता है ।)
यवषाक	यवानां क्षेत्रे जातं षाकम् इति । (यह यव वाले खेतों में स्वतः होता है ।)

MORPHOLOGICAL DESCRIPTION

It tends to grow upright at first, reaching heights of 10-150 cm, but typically becomes recumbent after flowering (due to the weight of the foliage and seeds) unless supported by other plants.

Leaves variable, often rhombic-ovate to lanceolate, more than 1.5 times longer than wide, 3-6 cm long, 2-3 (-4) cm wide, moderately to densely mealy, margins irregularly sinuate-dentate to entire, apex acute to obtuse, base narrowly to broadly cuneate, petioles ca. 0.5-4 cm long.

Flowers in dense glomerules grouped into dense, nearly leafless, paniculate spikes; calyx ca. 1 mm long, completely enclosing the fruit at maturity, the lobes ovate, weakly or not keeled, mealy pubescent, margins scarious.

Seed horizontal, 1.1-1.5 mm in diameter, margins obtuse, pericarp lightly roughened, not alveolate, usually attached to the seed".

HABITAT/ECOLOGY:

"Chenopodium album is one of the most widely distributed species of weeds in the world and is one of the most successful colonizers as it moves into new areas. It thrives on all soil types and over a wide range of pH values. Being a colonizing species it occurs on habitats that have been opened up by disturbances". Better adapted to temperate zones, Chenopodium album is a secondary weed in the tropics.

Rasa Panchaka of Vastuk:

In Ayurveda the Pharmacodynamics and Pharmacokinetics of a drug is explained by Rasapanchaka. Certain drugs manifest their action by virtue of their taste, some by virtue of their potency or other qualities, some by Vipaka and others due to its Prabhava.

Thus, the action of a drug is completely based on the Rasapanchaka of that drug. The Rasapanchaka of Vastuk is shown below in tabloid form:

Table

Rasa	Madhura
Guna	Snighdha, Guru
Veerya	Sheeta
Vipaka	Madhura

KARMA OF VASTUK

Karma is the action related to something to be achieved. It doesn't require any other factor for its action. The actions of Vastuk are well described by the texts.

Table . - Showing Karma of Vastuk in various Nighantu

S. No.	Nighantu	Karma
1.	K.N.	Pachana,Rochana,Hridhya,Medhya
2.	S.N.	Agnideepak,Snehan

3.	M.N.	Pachana,Ruchikar,Shukrabalprada
4.	B.N.	Saraka, Krimighana
5.	R.N.	Malamutrashudhhikar, Rochana

Roghgnata of Vastuk:

By the virtue of its versatile properties and actions Vastuk is being indicated for several maladies. Vastuk is recommended as Arshanoghana by most of the authors. The various therapeutic indications of Vastuk are exhibited by means of the Table.

- **Doshagnata** – Tridosahara

CHEMICAL COMPOSITION

- The leaves yield ascaridole, used for treating round-and hookworms.
- Vastuk have reported to contain iron 31.8 mg/100 gm.
- The oil also contains traces of ascaridole.
- Plant contains 8% saponins.
- Cryptomeridiol, isolated from the seeds, showed significant growth promoting activity.

CURRENT MEDICINAL USES

- Leaves have been used to treat for stomach ache, and to prevent scurvy or vitamin C deficiencies given the high levels of vitamin C in the plant.
- Cold tea has been used to treat diarrhea, while topical preparations of the leaves have been applied to bug bites and inflammatory joints.

PHARMACOLOGICAL ACTIONS

- Anthelmintic
- **Antiphlogistic**
- **Antireumatic**
- **contraceptive**
- Laxative
- Odontalgic

Fat hen is not employed in herbal medicine, though it does have some gentle medicinal properties and is a very nutritious and healthy addition to the diet. The leaves are anthelmintic, antiphlogistic, antirheumatic, mildly laxative, odontalgic. An infusion is taken in the treatment of rheumatism. The leaves are applied as a wash or poultice to bug bites, sunstroke, rheumatic joints and swollen feet, whilst a decoction is used for carious teeth. The seeds are chewed in the treatment of urinary problems and are considered useful for relieving the discharge of semen through the urine. The juice of the stems is applied to freckles and sunburn. The juice of the root is used in the treatment of bloody dysentery. Food that comprises 25.5% of the powdered herb may suppress the oestrus cycle.

Table :Qualitative tests of samples

S.No	Metabolites	Tests	Chenopodium album	Vastuk-Amalaki mishran
1	Carbohydrate	Molish	+ve	+ve
		Iodine	+ve	+ve
		Seliwanoff	+ve	+ve
		Fehling	+ve	+ve
		Bendict	+ve	+ve
2	Proteins	Ninhydrin	+ve	+ve
		Millons	-ve	-ve
		Lead Sulphide	-ve	+ve
3	Alkaloids	Xanthoprotic	+ve	+ve
		Dragendorff's	+ve	+ve
		Mayer's	+ve	-ve
4	Tannins	Wagner's	-ve	-ve
		Iron Salt	+ve	+ve
		Lead acetate	+ve	-ve
5	Resins	FeCl ₃	+ve	-ve

Vastuk phytochemical investigations and Organoleptics.

The results are as follows –

Name of investigation	Vastuk*
Foreign matter	1.56%
Moisture Content	6.56%
Total Ash	4.45%
Acid insoluble ash	0.34%
Water soluble ash	1.54%
Aqueous Extractive Value	26.46%
Alcoholic Extractive Value	18.47
Petroleum Ether Extractive Value	6.2%
Colour	Green
Odour	Sharp Characteristic
Taste	sweet

Touch	fine
<u>Iron</u>	31.8mg/100 gm

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