A CRITICAL REVIEW OF VARUNA (CRATAEVA NURVALA)

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ABSTRACT
Varuna is frequently used in the management of urinary tract infection, renal calculus and many other ailments related to human belonging to the family capparidacea. Charaka did not mentioned varuna among the dasaimani group, susrutha quoted varunadi gana for the treatment of asmari and mutrakrichha. In this review study we are try to assemble all the information about varuna mentioned in ayurvedic nighntus.

Keywords: Varuna, Nighntus.

INTRODUCTION
Crataeva nurvala commonly known as varuna¹¹ is a very much important herb in ayurvedic system of medicine belonging to family capparidaceae. The different medicinal preparations of varuna are used in various disorder of human being since times immemorial. Systemic and proper use of varuna can cure various life threatening disorder like asmari, mutrakrichha, vatarakta, gulma, krimi etc. Varuna has a definite role as an enhancer of digestive fire. It has tikta, kasaya, madhura rasa; laghu-rukhsya guna;usna virya and katu vipaka. Ayurvedic nighntus broadly described about varuna with different synonyms and therapeutic indications. Neither Dhanwantari nor Raj nighntus mentioned about the lithotriptic property but Vridhya madhav mainly emphasized asmarghna property.

Sanskrit Synonym of Varuna according to different Nighntus:

Bhavprakas nighntus: Varana, kumāraka, varuna, tiktashak.

Dhanwantari nighntus: Kumāraka, swetapuspa, tiktashak, tamal, marutapana, shakdrum, gandhabriksha.

Kaidev nighntus: kumāraka, varuna, swetapuspa, tiktashak, sadhuvriksha, uruman, swetavriksha, shakdrum, rodhavriksha, chalapaha, tamalak

Madanpal Nighntus: Varana, sweta, hakavriksha, kumāraka
**Saligram nighantu**: Shakavriksha, kumāraka, varuna, tiktashak, svetadruma, sadhuvriksha, urumansvetavriksha, svetadru, sweta.

**Raj Nighantu**: Kumāraka, varuna, swetapusa, tiktashak, svetadruma, sadhuvriksha, tamal, marutapana

**Priya Nighantu**: Varuna

**Sankar Nighantu**: Varuna, tiktashak, marutapana, varhapuspa, uruman, svetavriksha, svetadru

**Nighantu Adarsha**: Varana, sweta, shakavriksha, kumāraka, tiktashak, svetavriksha, asimarighna

**National Name** [12]:
- Bengali: Varun
- Telugu: Bilvaram, Bombay: Bhatavarna, Uriya: Boryno
- Gujarati: Varane
- Hindi: Barna
- Lepana: Purbong
- Malayalam: Kili
- Marathi: Hamvarna, Punjab: Barna, Rajputana: Barna, Tamil: Maralingam

**International Name** [12]:
- Burma: Kadat
- Canarese: Bilpatri
- Coong: Nerajane

**Habitat** [14]:
All over India especially Madhya Pradesh, grown in the vicinity of temples in Bengal, Assam, Malabar.

**Botanical Description** [13]:
A moderate sized deciduous tree. Bark bitter, brown.

**Wood**:
Moderately hard, smooth, close – grained, Lustrous, yellowish – white.

**Leaves**:
Digitately trifoliolate, upper surface deep green and lower grey, 20.3 cm long and 7.6 cm broad, bitter, aromatic when bruised.

**Flower**:
Violet, 5.1 – 7.6 cm diameter. Season: February – March.

**Fruit**:
Globose, many – seeded berry, 2.5 – 5.1 cm diameters. Season: April – May.

**Dose5**:
Decoction 50 to 100 ml.

**Parts Use5**:
Root bark, Stem bark.

**Properties of Varuna** [14]:
- **Rasa (taste)**: Tikta, madhura, Kashay
- **Guna (physical property)**: Laghu, ruksa
- **Virya (potency)**: Ushna
- **Vipaka**: Katu
- **Probhav**: Bhedan (ashmarighna)

**Properties of Varuna according to different ayurvedic classical text**: 

**Bhavprakas nighantu**[2]: Rasa: Madhur, Katu, Tikta, kasaya, Guna: Laghu, Ruksa, Virya: Usna

**Dhanwantari nighantu**[3]: Tikta, Katu

**Kaidev nighantu**[4]: Rasa: Madhur, Tikta, Kasaya, Katu, Guna: Laghu, Ruksa, Virya: Usna

**Madanpal Nighantu**[5]: Not mention.

**Saligram nighantu**[6]: Rasa: Madhur, Katu, Kasaya, Guna: Ruksa

**Raj Nighantu**[7]: Rasa: Katu, Guna: Snigdha, Virya: Usna

**Priya Nighantu**[8]: Rasa: Tikta, Virya: Usna

**Sankar Nighantu**[9]: Rasa: Kasaya, Madhura, Katu, Guna: Snigdha

**Nighantu Adarsha**[10]: Rasa: Kasaya Madhur, Guna: Singdha, Ruksa, Laghu

**Chemical Constituents**[5]:
Lupeol is reported from stem bark Varunol, rutin, quer-cetin, β-sitosterol etc.

**Botanical description** [11]:
Root: The roots are long, cylindrical, woods root bark is 1.0 mm to 4.0 mm thick, outer surface yellowish brown, longitudinally wrinkled. Fracture is tough, fibrous, taste slightly bitter. Microscopically the root shows tetrarch stele. Transverse section of mature root shows periderm consisting of 8–10 layers of cork, 2–3 layered phellogen, 6–8 layers of phelloderm and a wide zone of phloem and central wood. The phloem consists of sieve tubes, companion cells, phloem parenchyma, a few stone cells traversed by phloem rays. The xylem is composed of vessels, tracheids, wood fibres and wood parenchyma, traversed contain a resinsuous substance. The fibres are thick walled.

**Stem Bark**: The bark occurs in pieces, 6–15 cm long, 3 to 10 cm wide and 5–12 mm thick outer surface is ash coloured and rough due to presence of lenticels. Inner surface is smooth, whitish brown or buff coloured. In transverse section, the epidermis consists of single layer of cubical cells followed by a cortex consisting of 6–10 layers of collenchymas and 5–10 layers of parenchyma containing chloroplasts.
and starch grains. The stele is represented by a large number of vascular bundles. Simple and compound starch grains and prismatic crystals of calcium oxalate are found in most of the parenchyma.

**Leaf**: The leaves are long petiled, thin, entire, and trifoliate. The leaf shows a dorsiventral structure. The petiole shows a single layered epidermis followed by cortex and vascular bundles, traversed by thick-walled medullary rays enclosing a pitch in the centre. The palisade ratio is 10.0, stomatal index is 21.17 and vein islet number is 9.0. Tanin and resin are present in the parenchymatous cells.

**Identity, Purity and Strength**

**Root**: Total ash 17.5%
Acid insoluble ash 0.7%
Water soluble extractive 14.0%

**Bark**: Total ash 10.36%
Acid insoluble ash 0.254%
Alcohol soluble extractive 6.08%
Water soluble extractive 15.94%

**Leaf**: Total ash 16.38%
Acid insoluble ash 0.582%
Alcohol soluble extractive 6.62%
Water soluble extractive 50.47%

**Substitute and Adulterant**

It is reported that samples of stem bark collected from markets of Northern India, i.e. Varanasi, Gorakhpur, Lucknow, Dehradun and Calcutta, tallied with genuine bark but the sample collected from Madras was found to be little different microscopically. All the bark powders except the Madras sample exhibited yellow fluorescence under showed brown fluorescence. Leaf market showed that quite different materials go under the name of Varuna in raw trade. Leaf samples procured from Calcutta drug market was found to be that of Corchoms Capsularis Linn. Corchoms Capsularis Linn. Leaves are adulterated with leaves of C. nurvala Buch. Ham. due to similarity in regional names viz. Tiktashaka for Varuna and Tiktapat for Cochorus capsularis, both meaning bitter leaves.

**Trade & Commerce**: Retail market price **Bark**: Rs. 40/kg. **Bark powder**: Rs. 180/kg.

**Cultivation**

It can be propagated through axillary bud and leaf culture. Leaf explants (abaxial in position) inoculated on ms medium supplemented with Kaidev nighantu + BAP + Adenine Sulphate (2 µ M each) + NAA (0.1 µ M), developed 5-6 shoot buds within 4 weeks. After sub culturing on the same medium, these shoots became 3-4 inches long in next 4 weeks. Rooting was obtained on half strength MS medium containing 2% sucrose and 0.1 µM NAA.

**Therapeutic Uses of Varuna in different text**

**Bhavprakas nighantu** [2]: Aśmari, krimi, mutragriccha, arbuda, vatarakta

**Dhanwantari nighantu** [3]: Rakta dosa, krimi, vidradhi

**Kaidev nighantu** [4]: Aśmari, rakta dosa, agnideepak, vata hara, krimi, mutraghat, hridayavikar

**Madanpal Nighantu** [5]: Aśmari, gandamālā, vyāṅga, kikkisa, mutragriccha, vatarakta, gulma

**Saligram nighantu** [6]: Aśmari, krimi, mutragriccha

**Raj Nighantu** [7]: Rakta dosa, agnideepak, vrana, vata hara

**Priya Nighantu** [8]: Aśmari, mutragriccha, vidradhi, gulma

**Sankarnighantu** [9]: Aśmari, raktadosa, vatahara, Krimi, Mutraghat, Hridayavikar, Mutragriccha, vidradhi, gulma, Udarsula

**Nighantu Adarsha** [10]: Gandamālā, agnideepak, krimi, mutragriccha, vatarakta, Galasotha, vidradhi

**Table 1**: Position of the varuna in different ayurvedic classical text:

<table>
<thead>
<tr>
<th>Nighantus</th>
<th>Varga</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhavprakas nighantu [2]</td>
<td>Vātādi Varga</td>
</tr>
<tr>
<td>Raj nighantu [7]</td>
<td>Pravadradi Varga</td>
</tr>
<tr>
<td>Priya nighantu [8]</td>
<td>Harityakadi Varga</td>
</tr>
<tr>
<td>Sankar nighantu [9]</td>
<td>2nd Chapter</td>
</tr>
</tbody>
</table>
Ethical preparations: Varunadi Kwath, Varunadi ghrita, Varunadi Taila

Discussion: Crataeva nurvala having nerd about nine synonym mentioned in ayurvedic nighantus among those few are most popular like varuna, varan, Sweta, Shakavriksha, Kumāraka, Tiktashak etc. Each name of varuna signify specific meaning.

It has various national and international names for identification. Plant is occurring in south Asia and indomalayasiana zone. The pharmacological properties having usna virya so it is vata- kaphashamak and pitta bardhak. It is asmaragna in prabhava. According to Bhavprakash Nighantu main indication of varuna is Aśmari, krimi, mutrakriccha, arbuda, vatarakta but dhanwantar and Raj nighantu not mentioned varuna in the treatment of asmari. Hriday is a sthan of para ojo, according to Shankar nighantu varuna uses to treat hridayvikar. The krimighna property of varuna is mentioned by bhavprakash nighantu, shaligram nighantu, Shankar nighantu and nighantu adarsha. The treatment protocol of krimiroga is nidan parivarjan, prakriti vighat and apakarshan- the varuna may be act as a prakriti vighat agent. So it can be use in rakta vyadhi. All nighantus mentioned varuna in a specific varga but in Caraka samhita it described in tikta Shandha, Susruta samhita and Astanga samgraha it mentioned in varunadi gana; varunadi gana, ausadhi gana.

CONCLUSION

The wide range of covering area in respect to therapeutic indication of varuna makes it popular in ayurveda. It is the best moment to give more attention about the other therapeutic indications of varuna apart from lithotriptic and diuretic effect.

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