

## VANGA IN AYURVEDA - A LITERARY REVIEW

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**ABSTRACT**

Regarding the use of metals (*Dhatu*), history observation reveals that India was the first country to start the use of *Vanga* for various industrial, alchemical and therapeutic purposes. The word *Trapu* is mentioned regarding *Vanga* in *Veda* and *Samhita*. In *Brihatrayi*, external and internal use of *Vanga* is found with reference to '*Suvarna Samala Pancha Loha*', '*Bhouma Dravyas*' etc. In *Rasa* classics, *Vanga* and its therapeutic properties have been widely described under *Puti Loha* the metal which emit obnoxious smell, while they are melting. *Rasa* scholars mentioned its synonyms like *Vanga*, *Picchata*, *Shukraloha* etc which denotes its distribution, physical and therapeutic properties. One of the properties of *Vanga* is *Drutdravam* i.e. melt at low heat which proves by its low melting point (232°C). On observing various literature, it is seen that in *Samhita*, only therapeutic use of mentioned. But in *Rasashastra*, its types, Pharmaceutical process like *Shodhana*, *Jarana*, *Marana* and use in alchemical and therapeutic purposes are described widely. Much importance has been given to its efficacy and told that 'as lion destroy the group of elephants, like wise *Vanga* destroy all types of *Meha Roga*'. The author of *Ayurveda Prakash* has indicated that for *Prameha Roga* (diabetes), *Vanga Bhasma* is a drug of choice which is also evaluate by various research works on *Vanga Bhasma*.

**Keywords:** Diabetes, *Meha Roga*, Obnoxious, *Puti Loha*, *Vanga*.

**INTRODUCTION**

In *Ayurveda* the word *Dhatu* has been derived from the root word “*Du Dhai*” which means *Dharana* and *Poshan* i.e. holding/ maintaining and nourishing the tissues. In context with *Rasashastra*, the word *Dhatu* has defined as, the material which prevents the wrinkles, greying, baldness, emaciation and other senile changes, thereby provides the strength to the body and it denotes the metal<sup>1</sup>. Almost all metals are derived from ores which means concentration of appropriate minerals accessibly situated at or near the earth’s surface. Though there exists lots of difference of opinion in regard to the number of metals<sup>2,3</sup>. The ancient texts of *Rasashastra* have mentioned the classification of *Loha* as *Sara*, *Shuddha*, *Sadharana*, *Puti* and *Mishra Loha*<sup>4,5</sup>. *Vanga* is classified as a *Puti Loha*.

Here the *Puti* means bad smell, obnoxious or dirty. All three metals mentioned in this group emit obnoxious smell, while they are melting. *Vanga* has been widely described in our texts and several therapeutic properties have been stated. Much importance has been given to its efficacy as *Vrishya* and as a therapy for *Meha Roga*. Due to its comprehensive use, *Vanga* is selected for review.

**Material:** For this review, *Samhitas* of *Brihattriya* & *Laghutrayi* and books of *Rasashastra* available in Central and departmental library of National Institute of *Ayurveda* (NIA) Jaipur, Dissertations of various *Ayurvedic* Institutes and Colleges.

**Historical Review:** From historical point of view India was the first country to start the use of *Vanga* for various alchemical and therapeutic purposes.

**Vedic period:** In *Yajurveda*, *Atharvaveda*<sup>6</sup> the reference *Trapu* is available for *Vanga* mentioned along with other metals. The word *Trapu* is derived from the *Sanskrit* root. *Trap* means to be ashamed.

**Samhita period:** In *Charaka Samhita*, *Vanga* is mentioned as the name of *Trapu* in *Bhouma Dravyas*, *Suvarna Samala Pancha Loha*<sup>7</sup>, preparation of *Jivhanirlekhana yantra*<sup>8</sup>, *Basti netra*<sup>9</sup>, *Sarvaloha Rasayana Dravya*, *Trapu Dravya* is advised in *Mandala Kushtha*<sup>10</sup>, *Triphala Rasayana* advised along with all *Loha Bhasma*<sup>11</sup>.

*Acharya Sushruta* has mentioned *Vanga* in *Trapwadi Gana* by the name *Trapu*<sup>12</sup>. Also described faith of

*Vanga* as foreign bodies get dissolved by the heat of *Pitta* if they remained as for a long duration inside the body<sup>13</sup>. He indicated the application of tin plate in bandaging the *Kaphaja Arbuda*<sup>14</sup>.

*Ashtanga Sangrah* described pharmacological properties of *Trapu*<sup>15</sup> but no reference of *Trapu* was available in *Ashtang Hridaya* literature.

In *Taitteria Samhita*, *Kautilya Arthashastra*, *Manusmriti* the reference *Trapu* is available for *Vanga* mentioned along with other metals. *Sharangdhara* explained about varieties, *Shodhana* and *Marana* of *Vanga*.

#### **Rasashastra Literature:**

*Nagarjuna* (8th) has given description of *Vanga*. *Rasa Hridya Tantra* (10th) has also mentioned the importance of *Vanga*. *Rasarnava* (12th) described different *karma* of *Vanga* regarding *Dhatuvada*. It gives detail about five types of *Vangabhrika* and prepared *Vanga Bhasma* by using *Rasa Bhasma*. *Rasopanisada* described alchemical property of *Vanga*. *Ananad Kanda* (12th)<sup>16</sup>, *Rasendra Chudamani* (12th to 13th)<sup>17</sup>, *Rasa Prakash Sudhakar* (12th to 13th)<sup>18</sup>, *Rasendra Chudamani* and *Ras Ratna Samuchaya* (13th) has given detailed description regarding *Vanga*<sup>19</sup>.

The books written later 14th A.D such as *BhavaPrakash*, *Rasa Kaumudi*, *Rasa Kamdhenu* and *Ayurveda Prakash* etc. recognized *Vanga* and introduced it in the treatment of *Meha*, sexual disorders, and other so many diseases. *Kankushtha* as *UpaDhatu* of *Vanga* is the statement of *Arka Prakash* written by *Ravana*. Throughout various texts, it is classified under *Dhatu*, *Puti Loha*, *TriVanga*.

#### **Synonyms:**<sup>20,21,22</sup>

*Vangaka*, *Rang*, *Rangaka*, *Shukraloha*, *Kurupya*, *Trapus*, *Trapu*, *Picchita*, *Putigandha*, *Sweta Rupyra*, *Abhira*, *Nagaja*, *Kharatti*, *Mukhbhusana*, *Cippata*.

#### **Important synonyms and their derivations:**

- *Ranga*: means to colour. Its special compounds are used for colouring processes.
- *Vanga*: a kind of metal which is obtained from “*Vanga*” *Desha* (Bengal).
- *Picchata*: the metal which can be easily cut down or engraved or pressed or moulded.

**Types:** Almost all *Rasa* texts mention two types of *Vanga* viz *khurak* and *Mishrak*<sup>23,24,25,26</sup>. Among these varieties the *khurak* or *Shukla* variety of *Vanga* is best for the medicinal purposes.

**Khuraka Lakshana (Grahya Vanga):**<sup>27</sup> White (*Dhavalam*), soft, malleable on pressure (*Mrudulam*), smooth, without perceptible deformation (*Snigdham*), having low melting point (*Drutdravam*), heavy (*Sagauvaram*) and melts without producing any sound (*Nihshabdham*).

**Mishraka Lakshana (Agrahya Vanga):**<sup>28</sup> Not easy to melt (*Dravteatikathina*), dry /Roughed surface, not

allowing easy to clean (*Ruksha*), mixed with other metals (*Anya Dhaturvimisritum*), blackish white in colour (*Dhusaram*) and hard/ breaks by spattering on pressure (*Kathina*).

**Vanga Dosha:**<sup>29</sup> Internal administration of impure *Vanga* or improperly incinerated *Vanga Bhasma* leads to the development of various diseases. Hence, *Shodhana* (Purification) is necessary.

**Shodhana:** The *Shodhana* method must be followed to make *Vanga* free from all the *Doshas*. It involves both *Samanya* and *Vishesha Shodhana*.

**Table 1:** Showing process & media for *Shodhana* of *Vanga*.

Sr. No.	References	Media	Type of Shodhana	Procedure	Repetition
1.	R. M.	Arka dugdha	V	Dhalana	3
2.	Rasarnava	Bone powder of Mahish	V	Washed by its Mutra	-
3.	Rase. Chu	For Khuraka- Nirgundi Swarasa + Haridra Dravya For Mishraka- Amla takra+Punarnava Kwatha+Vatsanabha+Nirgundi/Kat ukalabu Swarasa	V	Dhalana	3 3 or 7
4.	R.R.S	For Khuraka- Nirgundi Swarasa + Haridra Dravya	V	Dhalana	3
5.	R.R	Karpas+Arka+Karanja	V	-	-
6.	A.K	As per Rasarnava	V	Dhalana	3
7.	Rase. Chi	Nirgundi Swarasa	V	Dhalana	-
8.	R.S.K	Kumari/Bhringraja Swarasa/ Palasha twaka kwatha	V	Dhalana	21
9.	R.S.S	Arka dugdha/ Dravyaudaka	-	Swedana ½ yama	3
10.	Basava-rajyama	Juice of Mula-Patra-Phala of karpasa+Arka+Karanja+Dhat ura+Agas-tya+Silva+Gunja+Chitraka+S nuhi+Ashwagandha+Surana	V	Dhalana	Till it becomes pure
11.	R.K.D	Amla-Dravya+Kshara+Arka-dugdha+Snuhidugdha+ Dhatura+Chitraka Swarasa+Trifala Kwatha+Gomutra	S	Dhalana & Prakshalana	7times in each
12.	B.Y.T	Tailadika gana	S	Dhalana	-
13.	A.P.	Taila-Takra-Gomutra-Aranala-Kullatha Kwatha/Kadalimula rasa, Arka-dugdha	S V	Dhalana Dhalana	7 times in each
14.	B.R.R.Su	Mutra+Amla+Ksharajala+ Arka-dugdha+Snuhi-dugdha	V	Dhalana	3/7

		<i>Nirgundi Swarasa+Haridra Dravya</i>			
15.	<i>R.T</i>	<i>Churnodaka/Arka-dugdha Nirgundi Swarasa+Haridra Dravya Amla Takra/Kumari Swarasa</i>	V	<i>Dhalan</i>	7 3
16.	<i>R.J.Ni.</i>	<i>Nirgundi Swarasa+Haridra Dravya Amla takra+Punarnava Kwatha+Vishtinduka /Katukalabu Rasa/Arka-dugdha</i>	V	<i>Dhalana</i>	3
		<i>Juice of Ghosha/Nirgundi rasa+ Nirgundi mula Dravya</i>	V	<i>Lepan &amp; Atapa Shushkikarana</i>	7
		<i>Mutra+Amla+Ksharajala+Arkadugdha+Snuhi-dugdha Kadamba Patra</i>	V	<i>Dhalana &amp; Prakshalna</i>	-
		<i>Churnodaka</i>	V	<i>Swedana ½ yama</i>	-
17.	<i>Shrangdhar Samhita</i>	<i>Taila-Takra-Gomutra-Aranala-Kullatha Kwatha</i>	S	<i>Dhalana</i>	3

V- Vishesha Shodhana

S-Samanya Shodhana

**Jarana/ Marana:** Jarana is important process for *Putiloha Marana* and it considered as an intermediate process between the *Shodhana* and *Marana*<sup>30</sup>. Jarana processes are adopted as complete *Marana* process by

some *Accharyas* and derived powder considered as *Bhasma* and prescribed it for therapeutic purpose also<sup>31</sup>. Apart this various method is described regarding *Marana* of *Vanga* in *Rasa* classics.

**Table 2:** Showing the herbal drugs used in *Marana /Jarana* of *Vanga*.

Sr. No.	Herbal drugs	Classical References
1.	<i>Apamarga</i>	<i>RKD 439, RJNi Vol 3, Rasamritum 3/89, Rpu 14/14, AP 3/196, RT 18/20.</i>
2.	<i>Arka</i>	<i>RRS5/159, RKD 461, RJNi Vol 3, Rpu 14/17, AP3/170, RT 18/27</i>
3.	<i>Ashwattha Twaka</i>	<i>RRS 5/59, RKD 461, RJNi Vol 3, Rpu 14/11, AP 3/174, RT 18/29.</i>
4.	<i>Babool Twaka</i>	<i>Rpu 14/323</i>
5.	<i>Bhallataka</i>	<i>RJNi Vol 3.</i>
6.	<i>Chincha Kashaya</i>	<i>RRS 5/159, RKD 467, RJNi, Rpu 14/11, AP 174</i>
7.	<i>Haridra</i>	<i>RSS, RJNi, AP 3/171.</i>
8.	<i>Jiraka</i>	<i>RKD 483, RJNi Vol 3, Rpu 24/24, AP 3/171.</i>
9.	<i>Palasha</i>	<i>RJNi, Rpu 14/32, Rmr 3/93</i>
10.	<i>Pippali</i>	<i>RRS 5/159, AP 3/167.</i>
11.	<i>Tila</i>	<i>A.P 3/176</i>
12.	<i>Vata Twaka</i>	<i>Rmr3/93</i>
13.	<i>Yavani</i>	<i>RKD 483, RJNi, Rpu 14/24, AP 3/161.</i>

**Table 3:** Showing the mineral drugs used in *Jarana/Marana* of *Vanga*.

Sr. No.	Mineral Drugs	Classical References
1.	<i>Parada</i>	<i>RRS 5/160, RT 18/16.</i>
2.	<i>Hartala</i>	<i>RHT 17/6, Ras 7/148, Rcu 14/130, RRS 5/159, RKD 466, Rpu 14/11-13, AP 3/162, RT 18/26.</i>
3.	<i>Makshika</i>	<i>RJNi Vol 3</i>
4.	<i>Saindhava</i>	<i>RJNi</i>
5.	<i>Shilajatu</i>	<i>RKD 483, AP 3/160.</i>
6.	<i>Sauvarchala</i>	<i>Rpu 14/8, AP 3/171.</i>
7.	<i>Sphatika</i>	<i>Ras. Chi 5/156</i>
8.	<i>Sankhiya</i>	<i>RS Page 242/144.</i>
9.	<i>Manahshila</i>	<i>RS Page 242/144.</i>

**Table 4:** Showing the Animal origin drugs used in *Jarana/Marana* of *Vanga*.

Sr. No.	Animal Origin Drugs	Classical References
1.	<i>Karkatshringi</i>	<i>RKD 481, Rcu, RJNi.</i>
2.	<i>Kukkutand Twaka</i>	<i>Rasamritum 3/92</i>
3.	<i>Mukta Shukti</i>	<i>RJNi, Rmr 3/92.</i>
4.	<i>Shankha</i>	<i>RJNi Vol 3</i>
5.	<i>Varatika</i>	<i>RJNi Vol 3</i>

**Table 5:** Showing methods used in *Marana* of *Vanga*.

Sr. No.	Methods	Type of Puta	Classical References
1.	<i>Jarana</i>	Heating in Iron Pan	<i>RRS 5/160, AP 3/155, RT 18/15-20, Rpu 14/8-10.</i>
2.	<i>Sharava Samputa</i>	<i>Laghu Puta</i>	<i>RRS 5/159, RKD 466, Rpu 14/17-18.</i>
3.	<i>Jarana Sharava Samputa</i>	<i>Laghu Puta</i>	<i>RKD, RT 18/25-28, Rpu 14/14.</i>
4.	<i>Jarana Sharava Samputa</i>	<i>Gaja Puta</i>	<i>AP 3/101-169.</i>
5.	<i>Jarana Sharava Samputa</i>	<i>Ardhagaj Puta</i>	<i>Rmr 3/94</i>

**Properties of *Vanga Bhasma*:**<sup>32,3</sup>

*Rasa- Tikta, Kashaya, Kinchit Lavana*

*Guna- Ruksha, Laghu*

*Virya- Ushna*

*Vipaka- Katu*

*Doshagnata- Kaphahara, Pittahara*

**Karma of *Vanga Bhasma*:** *Mehahara, Gulmahara, Medohara, Agnimandiyahara, Kshayaghna, Panduhara, Shosahara, Vranahara, Shukrakshayahara*<sup>34</sup>.

The author of *Ayurveda Prakash* has indicated that for *Prameha Roga*, *Vanga Bhasma* is a drug of choice.<sup>35</sup>

**DISCUSSION**

From historical point of view India was the first country to start the use of *Vanga* for various industrial, alchemical and therapeutic purposes. In *Veda*, the reference

*Trapu* is available for *Vanga* mentioned along with other metals. The word *Trapu* is derived from the *Sanskrit* root. *Trap* means to be ashamed. Macdonell in his *Vedic* index of names and subjects observed that the term *Trapu* was specified in *Vedic* literature denotes the metal tin because of its easily melting nature.

In *Samhita*, reference of '*Suvarna Samala Pancha Loha*' is observed for five metals in *Charaka Samhita*. *Chakrapani* has elaborated this reference is that *Pancha Loha* group are *Swarna, Rajata, Tamra, Loha, Trapu* and *Naga*. The *Pancha Loha* reference was available in main classification of '*Bhouma Dravyas*'. *Trapu* is also described in the preparation of *Jivhanirlekhana Yantra, Basti Netra* along with other metals. In *Chikitsasthana* '*Sarvaloha*' word is used in the description of *Rasayana Dravya*. *Trapu Dravya* is

advised in *Mandala Kushtha*. *Triphala Rasayana* is advised along with all *Loha Bhasma*.

*Acharya Sushruta* has mentioned *Vanga* in *Trapwadi Gana* by the name *Trapu* along with other metals indicated in *Garavisha*, *Krimi*, *Pipasa*, *HridRoga*, *Pandu*, *Meha*<sup>36</sup>. Its pharmacological properties are described are *Katu*, *Lavana*, *Krimighna*, *Lekhana Karma*<sup>37</sup>.

*Ashtanga Sangrah* described pharmacological properties of *Trapu* like *Tikta*, *Lavana*, *Bhedi*, *Lekhana* indicated in *Pandu*, *Krimi*, *Vamana*<sup>38</sup> whereas no reference of *Trapu* was available in *Ashtang Hridaya*.

In *Sangraha Grantha* like *Taitteria Samhita*, *Kautilya Arthashastra*, *Sharangdhara*, the reference *Trapu* is available for *Vanga* mentioned along with other metals. *Nagarjuna* the author of *Rasendra Magalam* (8th) has given description of *Vanga*. *Rasa hridya tantra* (10th) has also mentioned the importance of *Vanga*. *Rasarnava* (12th) one of the old books of that period gives much more importance to *Vanga* in *Svetakarma*, *Dvandamelapana* etc. It gives detail about five types of *Vangabhraka* and various processes are described. *Vanga Bhasma* prepared by using *Rasa Bhasma* are available in *Rasarnava*. A special purification process is shown here. The common method that is being used now a day to purify mercury is given in *Rasarnava* to remove *Vanga* and *Naga Doshas*. *Vanga* can be used for preparation of 900 types of colour shades. Many processes of *Khota Bandha* are given to make metallic alloys. It is utilized for processing *Hema Bija* and *Rajata Bija* for alchemy. On fire *Vanga* gives flame resembling to *Kapotvarna*<sup>39</sup>.

*Rasopanisada*, the book of alchemy, gave much importance to alchemical property of *Vanga* and states that "it is much powerful than any other metals". *Ananad Kanda* (12th), *Rasendra Chudamani* (12th to 13th)<sup>40</sup>, has described regarding types, *Shodhana*, *Marana*, its properties and *Pathya Ahara* while taking *Vanga Bhasma*.

*Rasa Prakash Sudhakar* (12th to 13th) quoted that *Vanga Bhasma* can be cure 80 types of *Vatvyadhi* and 20 types of *Prameha Roga*<sup>41</sup>. *Rasendra Chudamani* & *Ras Ratna Samuchaya* (13th) has given detailed description regarding *Vanga*<sup>42</sup>.

## CONCLUSION

On observing various literature, it is seen that in *Samhita*, only therapeutic use of mentioned. But with development of *Rasashastra*, its types, *Shodhana*, *Marana* and use in alchemical and therapeutic purposes are described widely. Various research works on *Vanga Bhasma* shows that it may be drug of choice for treatment of *MadhuMeha* (diabetes).

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