

A CRITICAL STUDY ON MAKSHIKA BHASMA WITH SPECIAL REFERENCES TO DIFFERENT CLASSICAL TEXT**Dr. Pratibha Prakash Kharat***

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INTRODUCTION

Ayurveda with its most revolutionary discipline known as Rasa Shastra serving human race with more quick action and therapeutic variability. Rasa Shastra with armament of mercurial medicinal preparation, mineralise & metallic bhasma and abundances of herbo mineral preparation is a point of attraction among Ayurvedic physicians on virtue of its characteristic properties of pharmaceuticals and therapeutics. All treatise of rasa Shastra from 5 AD to 21 AD are taking care about quality, safety and efficacy of Rasaoushadhies through its individualised pharmaceutical procedures like Shodhan, Maran, Jaran, Sanskar and preparatory methods of specific dosage forms such as Bhasma, Parpati, Kupipakwa and pottali etc.

Global grace of Ayurveda is evil in eyes of several opponents of Ayurveda who are not accepting its therapeutic advances with their prejudice mind and complexes. Their easy target is safety of rasaoushadhies. Since one decade, here is numerous hue and cry with biased publications to challenge safety and efficacy of rasaoushadhies (herbo metallic/minerallic drugs of Ayurveda) For befitting answer of these unwarranted allegations on Ayurvedic medicine, department of AYUSH, Ministry of Health and Family Welfare, Government of India is seriously working with Ayurvedist and scientists. Numbers of projects are sanctioned for data generation regarding safety and efficacy of rasaoushadhies.

CONCEPTUAL REVIEW**MAKSHIKA- AYURVEDIC REVIEW****MYTHOLOGICAL ORIGIN**

1. According to ancient classical text Rasarnava, Makshika has its origin from the drops of the blood oozed from the injured sole of Lord Krishna.
2. Tapya is said to be originated from the banks of the Tapti or Tapi River.

SYNONYMS

Synonyms have a major role in Ayurvedic literature as these synonyms predict the different properties or qualities of the drug. The various synonyms of Makshika mentioned in Ayurvedic texts are summarized in the following table.

Table 1: The different synonyms of Makshika and their references.

S. No.	Synonym	Name of the Text
1.	Apeeta	Raj Nighantu, Vaidyaka Shabda Sindhu
2.	Avarta	Dhanwantari Nighantu, Raj Nighantu, Rasa Kamadhenu, Rasarnava, Sodhal Nighantu, Vaidyaka Shabda Sindhu
3.	Brihadavarna: Pakshi, Garuda	Rasendra Sara Samgraha
4.	Dhatvaksayam	Rasa Kamadhenu, Rasarnava, Vaidyaka Shabda Sindhu
5.	Hemamakshika	Astanga Nighantu, Dhanwantari Nighantu, Raj Nighantu, Rasa Tarangini, Rasamrita
6.	Hemadyuti	Sodhal Nighantu
7.	Hemanga	Vaidyaka Shabda Sindhu
8.	Kanshya Makshika	Brihat Rasa Raj Sundar, Nighantu Ratnavali
9.	Kshoudra Dhatu	Raj Nighantu, Vaidyaka Shabda Sindhu
10.	Madhu Dhatu	Abhinava Nighantu, Bhava Prakash Nighantu, Dhanwantari Nighantu, Raj Nighantu, Rasa Kamdhenu, Rasa Ratna Samuchchya, Rasarnava, Sodhal Nighantu, Vaidyaka Shabda Sindhu
11.	Madhu Makshika	Abhinava Nighantu, Bhava Prakash Nighantu, Brihat Rasa Raj Sundar, Nighantu Ratnakar, Rasa Ratna Samuchchya
12.	Makshika Dhatu	Abhinava Nighantu, Astanga Hridaya, Astanga Samgraha, Bhava Prakash Nighantu, Brihat Rasa Raj Sundar, Charaka Samhita, Dhanwantari Nighantu, Nighantu Ratnakar, Raj Nighantu, Rasa Ratna Samuchchya, Rasa Tarangini, Rasamrit, Sodhal Nighantu, Vaidyaka Shabda Sindhu
13.	Nadeyam	Sushruta Samhita
14.	Peeta Makshika	Raj Nighantu, Vaidyaka Shabda Sindhu
15.	Pitam	Sodhal Nighantu, Vaidyaka Shabda Sindhu
16.	Rajat Makshika	Rasa Tarangini, Sodhal Nighantu, Sushruta Samhita Vaidyaka Shabda Sindhu
17.	Raupya Makshika	Brihat Rasa Raj Sundar, Nighantu Ratnavali, Rasa Tarangini, Rasamrita

18.	Suvarna Makshika	Astanga Hridaya, Charak Samhita, Rasa Tarangini, Rasamrita, Sodhal Nighantu
19.	Swarnahwa	Shaligram Nighantu
20.	Swarna Makshika	Abhinava Nighantu, Bhava Prakash Nighantu, Brihat Rasa Raj Sundar, Nighantu Ratnakar, Rasa Tarangini, Sodhal Nighantu
21.	Sweta Makshika	Rasa Tarangini
22.	Tapee	Rasa Kamdhenu, Rasarnava
23.	Tapee Samudbhava	Astanga Nighantu, Rasendra Sara Samgraha
24.	Tapija	Abhinava Nighantu, Bhava Prakash Nighantu, Brihat Rasa Raj Sundar, Dhanwantari Nighantu, Nighantu Ratnakar, Raj Nighantu, Rasa Kamdhenu, Rasa Tarangini, Rasamrita, Sodhal Nighantu, Sushruta Samhita
25.	Tapyia	Abhinava Nighantu, Astanga Hridaya, Astanga Nighantu, Astanga Samgraha, Vaidyaka Shabda Sindhu
26.	Tapyia Dhatu	Astanga Hridaya, Charak Samhita, Siddha Mantra Prakash
27.	Tapyia Makshika	Rasamrita
28.	Tapyak	Rasamrita, Raj Nighantu, Shaligram Nighantu, Vaidyaka Shabda Sindhu
29.	Tapyuttha Sangyaka	Paryaya Ratnamala
30.	Tara Makshika	Bhava Prakash Nighantu, Brihat Rasa Raj Sundar, Shaligram Nighantu

MAKSHIKA IN RASA GRANTHAS (8th CENTURY A.D. ONWARDS)

This was the period when Rasa Shastra was flourishing and it was established in the field of medicine. Makshika is one of the important mineral having alchemical and therapeutic importance and has been described in all the texts of Rasa Shastra in detail.

Although it was known since Samhita period but details of pharmaceutical process like shodhana, marana, satva patana and other alchemical technique used for managing this mineral was found in this period only.

Makshika was considered as the second most essential element which could potentiate mercury and make it thermo stable. For this purpose Abhraka satva has an excellent role but without forming the dwandwa of Abhraka and Makshika satva, Abhraka satva alone could not be amalgamated or digested by mercury. On account of this major contribution it was considered an indispensable element.

Besides its significant role in mercurial processing, Makshika is considered as the most influential and powerful therapeutic agent too. Among the drugs of mineral origin, Makshika has an impressive place, from the classification point of view also.

DISCUSSION

DISTRIBUTION AND COLLECTION OF MAKSHIKA

According to the ancient text it is said to be procured from Kanyakubja, Tapti teera (Banks of Tapti River), Kirat, China and Yavana desha. In modern age it is excavated mainly from land of Japan, Spain, USA, Portugal, Italy, Norway and Cyprus.

The Kanyakubjottha Swarna Makshika is of golden or yellowish in colour. The Tapti teeraja Makshika is similar to that suvarna which has five varnas (colours). It is Pashana bahula and Alpaguna. At present in India Ghatshila in Bihar and Khetari in Rajasthan are big copper projects of Government of India, where copper metal is extracted from Swarna Makshika.

PROPERTIES OF MAKSHIKA IN GENERAL

By going through all the text of Samhita period and the texts of Rasa Shastra a brief outline regarding properties may be withdrawn which is represented below in two subheadings.

1. Physical Properties

Makshika are described to be nishkona (having no angles), guru (heavy), suvarna varna (Bright golden colour) and snigdha (oily). Interesting factor about Makshika is that when it is rubbed on nikasa produce golden lining, but when it is rubbed on hand it produce blackish colour over the hand.

On breaking of its surface, seems to be of golden colour, soft, brittle and could be cut with a knife. Extraction through intense heating yields satva, which is similar to copper in various properties. Such sample of makshika is considered best for all purpose.

It is concluded in several texts that Rajat Makshika posses silver like properties but actually it is very inferior to silver in its virtues. However when it is rubbed on nikasha its lining resembles silver. It is heavy and smooth. It contains more stony portion hence it yields less satva and considered inferior for all purposes.

1. Pharmacological and Therapeutic Properties

It may be summarized as below:

Rasa - Tikta, Madhur

Guna -Sheeta, Laghu

Virya - Sheeta

Vipaka - Katu

Karma - Balya, Yogavahi, Rasayana, Pranavardhaka, Vrishya, Chakshushya, Sakalamayaghnah, Prano Rasendrasya, Gunottara, Durmel loha dwaya melanasch.

Dosha Prabhava - Tridoshaghna, Kapha Pittahar

Vyadhi Prabhava - Kshaya, Pandu, Prameha, Kushtha, Grahani, Arsha, Krimi, Visha, Udara, Shotha, Kandu, Mandagni, Kamala, Shosha, Swarbhanga, Amadosha, Vishuchika, Nanarupa Jwara, Vastiruja, JirnaJwara, Apasmara, Arochaka, Anidra, Sarvavyadhinashnam.

SHODHANA OF MAKSHIKA

After the collection of Makshika, it should go under the process of Purification (Shodhana). Shodhana is an essential process before using it for incineration or for Satva Patana purpose.

DIFFERENT METHODS OF SHODHANA OF MAKSHIKA

According to the different texts of Rasa Shastra there are several methods, measures and drugs for use in process of Shodhana of Makshika and these are summarized in table form as under mentioned:

Table 2: Drugs of Vegetable Origin used for Shodhana of Makshika with Measures.

S. No.	Name of Drug	Name of Measure	Textual Reference
1.	Taila	Swedana	Rasarnava 7/6,7,12
2.	Kanji	- do -	- do -
3.	Kulattha Kwatha	- do -	- do -
4.	Kadalikanda Swarasa	- do -	- do -
5.	Surana Kanda Rasa	- do -	- do -
6.	Kshara Drava	3 Puta	- do -
7.	Amla Drava	3 Puta Pachana	- do -, R.C.
8.	Eranda Sneha	Swedana, 3 Puta	R.R.S., R.C.
9.	Vasa Swarasa	Swedana, Mardana	R.P.S.
10.	Matulunga Rasa	Bharjana	R.K.D., R.S.S.
11.	Jambira Rasa	- do -	R.C., Sharangdhar Samhita, Y.R.
12.	Kala maricha Kwatha	Swedana	R.S.S.
13.	Triphala Kwatha	Nirvapa	R.S.S.
14.	Agastya Patra Swarasa	Peshana, Puta	R.C., B.R.R.S.
15.	Shigru Kwatha	- do -	- do -
16.	Jayanti Swarasa	Swedana	B.R.R.S.
17.	Shukla Maricha Rasa	- do -	R.T.
18.	Meshasringi Rasa	Mardana	Yoga Tarangini
19.	Kstkoyi Swarasa	- do -	- do -

Table 3: Drugs of Mineral Origin used for Shodhana of Makshika with Measures.

S.No.	Name of Drug	Name of Measure	Textual Reference
1.	Kshara (Alkali)	Putra	Rasarnava
2.	Lavana (Salt)	Putra	- do -
3.	Saindhava Lavana (Rock Salt)	Bharjana	R.C., S.S., R.K.D., R.S.S.

Table 4: Drugs of Animal Origin Used for Shodhana of Makshika with Measures.

S.No.	Name of Drug	Name of Measure	Textual Reference
1.	Takra	Swedana, Mardana	Rasarnava, R.P.S., B.R.R.S.
2.	Gomutra	- do -	- do -
3.	Sarpi	Putra	- do -

It is a clear demonstration from the tables that nearly 26 different drugs either in the form of Swarasa, Kwatha, in their original form as Kanji, Gomutra, Takra, Taila etc. are used for shodhana of Makshika.

Measures employed in process of Shodhana of Makshika are Swedana, Mardana, Peshana, Bhrjana, Nirvapa and Putapaka etc. Dola Yantra, Putra Yantra, Samputa Yantra, Darvi, Khalva Yantra, Chulhika and Containers are the apparatuses used during Shodhana process of Makshika.

PROPERTIES OF MAKSHIKA BHASMA

From very beginning Makshika bhasma has been practiced for treating various ailments which are mentioned below:

Actions: According to Rasa literature Makshika is claimed to possess the following action:

- 1) Action on Nervous system ... Medhya, Anidranashaka
- 2) Action on Digestive system ... Deepan
- 3) Action on Reproductive system ... Vrishya, Vajikar
- 4) Action on Skin Kushtha, Kandu, Pama
- 5) Action on Eye ... Chakshusya, Netrya

Miscellaneous actions- Balya, Pranavardhaka, Sakalamayaghnah, Yogvahi, Dehavedhkar

THERAPEUTIC USES: Therapeutic uses of Makshika bhasma, much emphasized in the Ayurvedic texts are arranged as follows:

- 1) Disease of Nervous system ... Apasmara (Schizophrenia), Anidra (Insomnia).
- 2) Disease of Digestive system ... Mandagni, grahani, arsha, Krimi (worm infestation), amadosha (indigestion), vishuchika, udar roga, arochaka (anorexia).

- 3) Disease of respiratory system ... Kshaya (weakness)
- 4) Disease of Liver ... Kamala (Jaundice)
- 5) Disease of Blood ... Kushtha, Kandu
- 6) Disease of Urinary system ... Vastiruja
- 7) Miscellaneous diseases ... Shosha(wasting), nana rupa jwara, prameha, shotha, sarva vyadhi.

Therapeutically Makshika bhasma is used alone as well as in various compound forms. Approximately 500 compound formulations are mentioned in Rasa Yoga Sagar only, which indicate the major role of Makshika bhasma for therapeutic importance.

Table 5: DOSE OF MAKSHIKA BHASMA.

S.No.	Name of Text	Ancient Dose	Metric Weights
1.	Rasa Prakash Sudhakar	1 Valla= 3Ratti	363mg
2.	Rasa Ratna Samuchchya	1 Valla= 3Ratti	363mg
3.	Brihat Rasa Raj Sundar	1 Valla= 3Ratti	363mg
4.	Rasa Tarangini	½ Ratti- 2 Ratti	60mg- 242mg
5.	Ayurveda Chintamani	2 Ratti	242mg
6.	Rasamrit	1-2 Ratti	121- 242mg
7.	Nighantu Ratnakar	3 Valla	1086mg

Table 6: Different Anupanas and Their Indication Along With Textual Reference.

S.No.	Textual Reference	Name of Anupana	Indicated disease / Therapeutic effect
1.	Rasa Prakash Sudhakar	Madhu, Vyosh	Jwara, Pandu, Prameha, Grahani, Kamala, Mandagni, Kshaya, Shoola
2.	Rasa Ratnakar	Bilwa, Vyosh, Triphala, Ghrita	Bhagandara
3.	Rasa Ratna Samuchchya	Vyosh, Vidanga, Madhu, Triphala, Ghrita	Jwara
4.	Brihad Rasa raj Sundar	Vyosh, Vidanga, Madhu	Jwara
5.	Rasa Tarangini	<ul style="list-style-type: none"> - Shalsaradi gana - Shilajit - Yavakshara - Punarnava, Amrita, Sunthi, Darvi kwatha - Kanchnar Twak - Pippali, Madhu - Parada, Gandhaka, Madhu - Bansalochana - Rasa Sindur, Abhrak, Vyosh - 1part RasaSindur+2 partMakshika+ Madhu 	<ul style="list-style-type: none"> - Sandra Meha - Yakshma - Mutrakriccha - Shotha - Masurika - Kasa - Rakta Pitta - Balavridhhi - Fever during pregnancy - Bala virya vridhhi - Raktasrava - Jvaratarisara and shoola

		- Pinda khajur - Ativisha, Bala, Sunthi	
6.	Nighantu Ratnakar	- Pippali, Madhu - Vasa+Vyosha+ Bilwa+Ghrita	- Balakarak, Pandu, Kamala - Vata Pitta, Halimak

CONCLUSION

In purnas, samhitas references of literature about Makshika are very scattered or very less in number. So in this literary study It is observed that Makshika is grouped under Maharasa varga (mineral group) in Rasashastra text by different Acharyas before 16th century. Makshika is considered as “Rasendra prana” i.e its usage is inevitable in various mercurial operations. And it has been told that Makshika is best among all Rasayanas i.e Rasayanagrya. This might be the reason that earliest Rasacharayas have included that Makshika under Maharasa varga.

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