

## A LITERARY REVIEW ON MAKSHIKA (Copper pyrite)

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### ABSTRACT

*Rasashastra* (Science of Mercury) is a unique branch of *Ayurveda* which deals with the pharmaceuticals of medicines out of minerals, metals, animal products etc. *Makshika* (Copper pyrite) is one such mineral included among eight *Maharasa* (group of eight minerals) and used since time immemorial in treating various diseases like *pandu* (Anemia), *kushta* (Skin ailments), *prameha* (Diabetes) etc. *Makshika* (Copper pyrite) is the most abundant copper bearing mineral whose references are scattered in various *Rasashastra* texts like *Rasa Tarangini*, *Rasa Ratna Samuchaya*, *Rasendra Purana*, *Anandakanda*, *Rasarnava*, and so on. The current article is to highlight different references of *Makshika* (Copper pyrite) in *Rasashastra* (Science of Mercury) texts under one roof.

**Keywords:** *Makshika*, *Shodhana*, *Marana*, *Amritikarana*

### INTRODUCTION

*Rasashastra* (Science of Mercury) is described as *Ayurvedic* pharmaceuticals which mainly deals with drugs of minerals, metals, animal and plant origin, their pharmaceuticals and their therapeutic uses. Various pharmaceutical procedures such as *Shodhana* (Purification), *Marana* (incineration), *Satwa patana* (extraction of the essence), *Amritikarana* (to enhance quality of medicine) etc. are employed to make these drugs deemed to be administered internally. *Makshika* (Copper pyrite) is one of the *Maharasa* (group of eight minerals) which is said as *Prana* (life) of *Parada* (Mercury). As explained in *Rasa Ratna Samuchaya* it acts as *Rasayana* (immune modulator), *vrishya* (aphrodisiac) and cures various diseases<sup>1</sup>. *Makshika* has great importance in both *deha vada* (medicinal purpose) and *dhatu vada* (conversion of lower metals into higher

metals). But the available references are scattered in different texts and there is a need to gather them at one place for superior understanding and the proper usage of the drug for the betterment of mankind. Hence an effort is made in this regard to gather all the available references of *Makshika* in this review article.

### Mythological origin of *Makshika* (Copper pyrite):

The mythological origin of *Makshika* (Copper pyrite) is explained as follows:

- *Makshika* (Copper pyrite) is said to have its origin from the drops of blood falling from the wound in the injured sole of *Lord Krishna*. The wound in the sole was caused by an arrow arched by a hunter by confusion with the animal when he was in *yoganidra* (deep sleep) in the forest, after completing his duty in *Mahabharata*.<sup>2</sup>
- The *Kanchana Rasa* i.e *Makshika* (Copper pyrite)

per pyrite) is said to be brought by Lord Vishnu from the *suvarnashaila* i.e. *Sumeru Mountains* and kept on the banks of river *Taapi* and *Kirata, cheena, yavana desha*, which shines brightly in *madhava masa* due to intense sunrays.<sup>3</sup>

**Makshika in Rasashastra text:**

The *Shodhana* and *Satvapaatana* of *Makshika* (Copper pyrite) are described in detail and is explained that *Makshika* (Copper pyrite) is the best drug for incineration of *Rajata* (Silver)<sup>4</sup> and also it is explained that it is very much useful in *parada karmas* (Mercurial processings). The *parada* (Mercury) after *grasa* of *Makshika* and *Abhraka satva* (Essence of Mica) becomes fit for *ranjana* and *baddha karmas*. The mythological origin of *Makshika* (Copper pyrite), description of *Shodhana* and *satvapatana* are elaborately explained in *Rasarnava*.<sup>5</sup>

**Rasaratnasamuchhayakaara:** This book which dates 13<sup>th</sup> century gave detailed description of *Makshika* regarding its *lakshana* (desired attributes), *guna* (qualities), *Shodhana*, *maarana* and *satvapaatana* procedures etc. Author has placed *Makshika* (Copper pyrite) under *Maharasa varga*.<sup>6</sup>

**Laghutrayee:** Have explained the *Makshika* in *Upadhaatu varga*. *Sharangadhara Samhitha* (14<sup>th</sup> Cent) has explained under *upadhatu varga*, its *Shodhana* and *Marana*.<sup>7</sup> *Bhavaprakasha* (16<sup>th</sup> Cent) has explained the *Swarnamakshika* in *Upadhatu varga*, the *Ashudda lakshana*, *Shodhana* and *Marana* are described.<sup>8</sup>

**Rasajalanidhi:** This is one of the compiled books of 20<sup>th</sup> century. Author has compiled almost all the literature pertaining to *Makshika* (Copper pyrite) from the available previous texts.<sup>9</sup> *Makshika* (Copper pyrite) has been explained even in *Nighantus* viz.

*Dhanvantari Nighantu*, *Madanapaala Nighantu* etc. *Makshika* (Copper pyrite) is useful in *Pandu*, *Kushta*, *Jeerna jwara* and many other disorders. It is also very much useful in *Parada karmas*.

**Rasendra Mangala:** Book of 8<sup>th</sup> century. During this period *Acharya Nagarjuna*, author of *Rasendra Mangala* explains about *Shodhana* and *Satwapatana* of *Makshika*.<sup>10</sup>

**RasahridayaTantra:** Is 10<sup>th</sup> Century book which explains the use of *Makshika* in *Parada karma*.<sup>11</sup>

**Rasarnava:** 12<sup>th</sup> Century book explains about mythological origin, *Shodhana* and *Shatwapatana* of *Makshika*.<sup>12</sup>

**Sharangadhara Samhitha:** (14<sup>th</sup> Century) has explained *Shodhana* and *Marana* of *Makshika* under *upadhatu varga*.<sup>13</sup>

**Bhavaprakasha:** (16<sup>th</sup> Century). It has explained *Makshika* with reference to its *Ashuddha lakshana*, *Shodhana*, *Marana* and described it under *Upadhatu varga*.<sup>14</sup>

**Ayurveda Prakasha:** (17<sup>th</sup> century) described *Makshika* in *Upadhatu varga*. He has explained types, synonyms, occurrence, therapeutic qualities, *shodhana* and *marana* procedures in detail.<sup>15</sup>

**Rasatarangini:** (20<sup>th</sup> century) *Shri. Sadananda Sharma* explains *Makshika* (Copper pyrite) in *Upadhatu varga* and gives a detailed description about its occurrence, types, therapeutic qualities, *Shodhana*, *Marana* procedures.<sup>16</sup>

**Basavarajeeyam:** (18<sup>th</sup> century) explains types of *Makshika* (Copper pyrite), *apakva makshika doshas*, its *shuddhi* in detail.<sup>17</sup>

**Rasendrasarasangraha:** (13<sup>th</sup> century) explains about *Makshika* (Copper pyrite), *lakshana*, *ashudha makshika* (Copper pyrite) *dosha*, *shodhana*, *shudha makshika* (Copper pyrite) *guna*.<sup>18</sup>

**Rasayanasa:** explained about types of Makshika, shodhana and Marana.<sup>19</sup>

**Anandkanda:** explained about Makshika, its shodhana, marana, types, Bhasma lakshana, dosha, apakva makshika guna.<sup>20</sup>

**AdhyatanaRasashastra:** explains about Makshika, types, Grahya lakshana, Shodhana, Marana, utama bhasma lakshana, guna, karma, matra, apakva makshika dosha.<sup>21</sup>

**Rasendrachudamani:** (13<sup>th</sup> century) explained about Makshika types, praptisthana, Shodhana, Marana, Bhasma guna, Satvapatana.<sup>22</sup>

**Parada Samhitha:** explains about examination of Makshika, types of makshika, Shodhana, marana, Satvapatana, guna.<sup>23</sup>

**Makshika Bheda (types):**

Makshika is of three types. Swarna makshika (Copper pyrite) and Rajata Makshika (white pyrite) Kamsya makshika (black pyrite). Swarna makshika (Copper pyrite) – Bearing golden tints was found in Kanyakubja. Roupya makshika (white pyrite) – Which resembles Panchvarna Suvarna, contains much of the stone was found in the banks of river Tapti.<sup>24</sup>

**Occurrence of Makshika (Prapthi sthana):**

Classically, the is found on the banks of Taapi River and kirata, cheena, yavana desha and also kanyakubja pradasha.

The mineral sources of Makshika (Copper pyrite) are found mainly in Bihar, Rajasthan, Tamilnadu, Karnataka, Madhya Pradesh, Sikkim in India. And also found in America, Russia, Nepal, Burma, Chaina, Spain, Portugal, Italy, Norway and Cyprus.

**Makshika Shodhana (Purification):**

• Makshika becomes purified by boiling it in dolayantra containing kadalikanda swarasa and karkotikanda swarasa.<sup>25</sup>

**Makshika Marana (Incineration):**

• Shuddha Makshika and equal quantity of Gandhaka are mixed together and ground well in Matulunga swarasa, (Citrus medica) then it is dried and kept in crusible or shara-rava samputa and subjected to three kurma putas 320<sup>0</sup>-350<sup>0</sup> °c to obtain the bhasma of Makshika.<sup>26</sup>

**Amritikarana of Makshika:**

By subjecting to puta, bhasma becomes teekshna, ushna, ruksha, etc. To nullify these and to produce snigdha, soumya, and sheeta guna in the bhasma, amritikarana process is done.

In most of the Rasa texts Amritikarana to Makshika (Copper pyrite) bhasma is not mentioned. The bhasma containing the Tamra (Copper) some time shows the untoward effect. Therefore it is necessary to conduct Amritikarana by using Panchamrita (dugda, dadhi, ghrita, madhu, sharkara). It also removes the remaining doshas from the bhasmas.<sup>27</sup>

**DISCUSSION**

Makshika was included in Maharasa varga (mineral group) as it is useful in both Deha vada (medicinal purpose) and dhatu vada (metal conversion). For any study ideally the sample should be according to the classical grahya lakshana (suitable quality) and specifications, physical and chemical analysis is essential for the quality control of the drug as well as standardization. Vimala (iron pyrite) is being used in place of makshika now, as real Makshika is not available frequently. There is difference between vimala (iron pyrite) and Makshika. Vimala (iron pyrite) have edges and facets and Makshika is free from these characters and has no specific shape. Shodhana (purification) and Marana

(incineration) makes *Makshika* free from the *doshas* (morbid factors), as *ashodhita* (impure) *Makshika* is harmful to the body. *Makshika Bhasma* (incinerated powder) is a *Rasayana* (immune modulatory) and *Shamanoushadha* (calming medicine) as it contains Iron and Copper is useful in improving RBC count as well as Hb% in the blood and also copper promotes absorption of iron.

## CONCLUSION

*Makshika* has unique place both in *deha vada* and *loha vada*. It has been in use for the treatment since *samhita kala*. In *Vedic* period and *Koutilya Artha shastra* also says about *Tamra dhatu* (Copper metal). But nowhere the name *Makshika* is seen, though it is an important *Khanija* (ore) used as to extract *tamra*. By these we can impress that people had knowledge of *Makshika* 3000 years back, however *Vedas* lack the information. In *purnas*, *samhitas* also reference of this is unavailable. It is observed that *Makshika* is grouped under *Maharasa varga* (mineral group) in *Rasashastra* text by different *Acharyas* before 16<sup>th</sup> 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 *Rasayanans* i.e *Rasayanagrya*. This might be the reason that earliest *Rasacharayas* have included that *Makshika* under *Maharasa varga*.

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