

## CONCEPT OF MANASHILA DRUG- A REVIEW

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### ARTICLE INFO

#### Article History:

Received 14<sup>th</sup> April, 2017  
Received in revised form  
24<sup>th</sup> May, 2017  
Accepted 26<sup>th</sup> June, 2017  
Published online 22<sup>nd</sup> July, 2017

#### Key Words:

Manashila,  
Arsenic.

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### ABSTRACT

*Manashila, Haratala, and Somala* are important arsenic compounds which are used in *Ayurveda*. *Manashila* is most popular among them. *Manashila* is commonly used in treating the diseases like *Shwasa-Kasa, Agnimandya, Kshaya, Anaha, Jwara, Krimi, Visharoga, Raktavikara* etc. *Manashila* is called as red arsenic with two molecules of Arsenic and two molecules of Sulphur (AS<sub>2</sub>S<sub>2</sub>). *Manashila* consumed without proper *Shodhana* causes *Mandagni, Malabaddata, Ashmari* and *Mutra Krichra*. Hence *Shodhana* of *Manashila* is essential. *Shodhana* is the process of removal of physical, chemical impurities and potentiating of the drugs. Generally *Shuddha Manashila* is not given alone. It is administered along with herbal drugs or an important ingredient in most of the popular formulations like *Shwasakuthara Rasa, Rasa Raja Rasa, Trailokyachintamani Rasa* etc. There are various *Shodhana* procedures explained for *Manashila* in *Rasa* classics like *Rasa Ratna Samucchaya, Ayurveda Prakasha* and *Rasa Tarangini*. There are three types of *Manashila* like *Shyamangi, Kanaveeraka* and *Khandakya*, which are superior in increasing order. So *Khandakya* is superior most and which also yields more *Satva*.

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Citation: Dr. Bandeppa Sangolgi, Dr. Ganapathi rao and Dr.Praveen Simpi. 2017. "Concept of Manashila Drug- A Review", *International Journal of Development Research*. 7. (07). 13584-13589.

## INTRODUCTION

**NIRUKTHI** (Raja Radhakant Deb, 2002): According to *Shabda Kalpa Druma*, the word *Manashila* means pleasant to mind, looks like stone, has its own smell and attracts everyone.

- **PARYAYA** (Gulraj Sharma, 1992):
- *Manohva* (pleasant for mind)
- *Nagajihvika* (Snakes tongue)
- *Nepali* (found abundantly in Nepal)
- *Kunati* (as facial paint in drama)
- Gola
- Shila
- Kalyanika
- Rasanetrika
- *Manashila* (found in stone form)

## VARGA

### Uparasa Varga

In *Rasatarangini* (Kasinath Shastri, 1979) it is explained under *Talakadi Vijnanam* and in *Rasamrutham*, (Damodar Joshi, 2003) it is explained under *Malla Vijnanam*.

## VERNACULAR NAMES

- Sanskrit: Manashila, Naipali, Kunati.
- Hindi: Manasila
- Bengali: Manchala

- Marathi: Manasila
- Gujarati: Manasila
- Parsi: Jharnokha surkha
- English: Realgar
- Telugu: Manasila
- Tamil: Manosilai

## HISTORY

*Manashila* is one of the mineral drugs that have history of usage as old as *Vedic* period. In *Rigveda* its usage has been mentioned for environmental purification. Whereas in *Atharvaveda* and in *Purana Granthas* its external and internal usage is mentioned. It is also used in *Rasa Karma* and *Dhatu Ranjana*. *Chanakya* has mentioned in his *Artha Shastra*, its use in warfare as *Lepa* is mentioned.

### TYPES OF MANASHILA (Sri Sadananda Sharma, 1989):

- Shyamangi
- Kanaveera
- Khandakhya
- ++ Madhyama
- +++ Uttama

The author of *Ayurveda Prakasha* opines that *Manashila* is only a variety of *Talaka* and both can be differentiated by their colors red and yellow respectively.

### TYPES AND CHARACTERS

Table 3.2. Shows types and characters of Manashila in classics

TYPES	RRS, AK, RT, BRS, RJN	AP
<i>Shyamangi</i>	Reddish white with blackish tint and heavy	Colour of Hingula, Mild yellow and red shiny
<i>Kanaveeraka</i>	Copper colour with certain brightness	Red, powdery and heavy
<i>Khandakhya</i>	Bright coloured, heavy and easily powdered	Mild red, White color more in weight

According to AP, RRS (Sri Vagbhatacharya, 1990), AK, RT, BRS, RJN - Uttarothara Srestha

According to RPS, RK - *Poorvaha Poorva Gunotharaha*.

### GRAHYA LAKSHANAS (Sri Sadananda Sharma, 1989)

- According to *Rasa Tarangini*, *Manashila* which is devoid of stones and sand, as red as *Utpala* flower, heavy and shiny is considered as good and will yield more *Satwa*.
- ASHUDDHA MANASHILA GUNAS:<sup>8</sup>
- *Manashila*, not purified or improperly purified leads to *Asmhari*, *Mutrakrichram*, *Mandagni*, *Malabandha*, *Kanthinasa* etc,

**ANTIDOTE:** Honey + milk - 3 days with wholesome diet relieve complications.

## SHODHANA

Table no.3.3. Shows the *Shodhana* of *Manashila* in Classics

<i>Bhavana</i> with <i>Agasthya Patra Swarasa</i> for 7 times	Acc. to RRS, AP, AK, RPS, RT, BRS, RJN, RM
<i>Bhavana</i> with <i>Ardraka Swarasa</i> for 7 times	Acc. to RRS, AP, RPS, RT, RA, BRS, RJN
<i>Swedana</i> in <i>Dola Yantra</i> with goats urine for 3 days and then <i>Bhavana</i> with goats bile for 7 times	Acc. to AP, AK, RJN

### RASA TARANGINI (Sri Sadananda Sharma, 1989)

- Raw *Manashila* soaked in *Churnodhaka* for 3 days
- *Swedana* in *Dolayantra* with *Bhringaraja Swarasa* for 4 prepares
- *Bhavana* in *Bijapura/Nimbu Swarasa* for 7 times
- *Swedana* in *Dolayantra* with *Jayanthi Swarasa* for 4 *Praharas*
- *Swedana* in *Dolayantra* by *Jayanthi Swarasa* / *Agasthyapatra Swarasa*/ *Ajamutra* for 1 day.

### AYURVEDA PRAKASHA (Gulraj Sharma, 1999)

- *Swedana* in *Dolayantra* with *Jayanthi Rasa* + *Taila* for one day and *Ajamutra*, *Bhringaraja Rasa* the next day.
- *Swedana* in *Dolayantra* with *Bhringaraja*, *Agasthya*, *Jayanthi*, *Ardraka Swarasa*.

### RASA JALA NIDHI (Bhudeva Mukherjee, ?):

- *Swedana* in *Dolayantra* with *Bhringaraja*, *Agasthya*, *Jayanthi* and *Ardraka Swarasa*.
- *Bhavana* in lime water for 7 times

### RASAMRITAM (Damodar Joshi, 2003)

- *Bhavana* 7 times with *Bhringaraja* / *Matulunga Rasa*

### BHARATIYA RASA SHASTRA (Vishwanath Dwivedi, 2000)

- *Swedana* in *Dolayantra* for 1 *Prahara* with *Rakta Agasthya Patra Swarasa* then washed with *Kanji*
- *Swedana* in *Dolayantra* for 1 *Yama* with *Jeevanti*, *Bringharaja*, *Agasthya*, *Ardraka* rasa then 1 *Yama* in *Aja Mutra* and then wash with *Kanji*.

### RASA RATNA SAMUCCHAYA (Sri Vagbhatacharya, 1990):

- *Swedana* in *Dolayantra* for 1 *Prahara* with *Rakta Agasthya Patra Swarasa* then washed with *Kanji*
- *Swedana* in *Dolayantra* for 1 *Yama* with *Jeevanti*, *Bringharaja*, *Agasthya*, *Ardraka* rasa then 1 *Yama* in *Aja Mutra* and then wash with *Kanji*.

### ANANDA KANDA (Manthana Bhairava, 1989):

- *Swedana* in *Dolayantra* for 1 *Prahara* with *Rakta Agasthya Patra Swarasa* then washed with *Kanji*

- Swedana in *Dolayantra* for 1 *Yama* with *Jeevanti*, *Bringharaja*, *Agasthya*, *Ardraka* rasa then 1 *Yama* in *Aja Mutra* and then wash with *Kanji*.

#### MANASHILA GUNAS (Sri Sadananda Sharma, 1989; Sri Vagbhatacharya, 1990)

- *Rasa: Katu, Tikta*
- *Guna: Snigdha, Ushna, Guru*
- *Virya : Ushna*
- *Karma: Lekhana, Kapha Hara*
- *Prabhava:Visha Nashaka*

#### USES (Sri Sadananda Sharma, 1989; Sri Vagbhatacharya, 1990).

It cures disease like *Kasa*, *Shwasa*, *Bhutopadrava*, *Agnimandhya*, *Kshaya*, *Anaha*, *Kandu*. If consumed for more days it acts as *Rasayana*, cures *Jwara*, *Varnya*, *Visha Nashaka*.

#### DOSE (Sri Sadananda Sharma, 1989)

According to *Rasa Tarangini* dose is 1/24 *Ratti* to 1/16 *Ratti* (5.2-7.8 mg) but in Hindi commentary by *Sadanand Sharma* mentions as 1/32 *Ratti* to 1/16 *Ratti* (3.9-7.8 mg)

#### AMAYIKA PRAYOGA (Sri Sadananda Sharma, 1989)

- *Shuddha Manashila* and *Trikatu* with *Vasa Swarasa* in *Kasa* and *Shwasa*.
- *Shuddha Manashila* and *Pippali Churna* triturated with water and applied as *Anjana* in *Vishama Jwara*
- *Shuddha Manashila* and *Pippali Churna* with *Nimba Bija Churna*
- *Shuddha Manashila* triturated with *Karela Patra Swarasa* as an *Anjana* in *Tridoshaja Prakopa Jwara*
- *Saindhava* 1 part, *Maricha Churna* 2 part, *Shuddha Manashila* 3 part and *Shankha Bhasma* 4 part, fine powder is prepared and applied as *Anjana* in *Netra Rogas*
- *Shuddha Manashila*, *Rasotha* fruit and *Mala* of pigeon is applied as *Anjana* in *Apasmara*.
- *Shuddha Manashila*, *Haridra*, *Manjistha Churna* and *Yavakshara* triturated in ghee and honey is used as an external application in *Twak Rogas*.

#### IMPORTANT YOGAS (Chandrabhushan Zha, 2005)

*Shwaskuthara Rasa*, *Kalanala Rasa*, *Trilokyachintamani Rasa*, *Kshayakesari Rasa*, *Manashiladhi Ghrita*, *Rasarajarasa*, *Mrutasanjeevani Rasa*, *Manashilanjana Varti*, *Kalagnibhairava Rasa*, *Shilasinduram*, *Manashiladi Dhuma* etc.

#### MODERN CONCEPT OF MANASHILA (Chandrabhushan Zha, 2006; Soni, 1996; Goodman and Gillman, 1996)

Word Origin: The name "Realgar" comes from Arabic *rahj al ghar* means powder of the mine.

#### HISTORY OF ARSENIC

Arsenic was used more than 2400 years ago in Greece and Rome as a therapeutic agent and as a poison. The history and

folklore of arsenic prompted intensive studies by early pharmacologists. Indeed the foundation of many modern concept of chemotherapy derived from helices early work with organic arsenicals and such drug were once a main stay of chemotherapy. In current therapeutics, arsenicals are important in the treatment of certain tropical disease such as African crypanosmiasis. Two sulphides of arsenic used in *Ayurvedic* system of medicine under the name of *Manashila* and *Haratala*. The former is recognized as *Realgar* and later as *Orpiment*. *Realgar* is an ancient pigment used in Egypt, ancient Mesopotamia until the 19th century. *Realgar* was not as common as *orpiment* in medieval paintings, with references limited largely to preservation of glair, and only sometimes used as a pigment. *Realgar* was the only pure orange pigment until modern chrome orange.

**Substance name:** Arsenic disulphide (Figure-2)

**Formula:**  $As_2S_2$ ,  $As_4S_4$

**Class:** Sulphides and Sulfosalts

**Synonyms:** Arsenic sulphide

Thioxoarsene

Arsenic Sulphide red

Tetra arsenic Tetrasulphide

**Chemical group:** A compound of Arsenic V-A

**Uses:** A major ore of arsenic, formerly used for pigments, firework coloring agent and as mineral specimens.

#### Specimens

*Realgar* is an oddball among the sulfides. It is one of only a few sulfides that are not metallic or opaque or blandly colored. Its structure is analogous to that of sulfur and resembles sulfur in most respects except for color (the name "ruby sulfur" has been applied to *realgar*). Sulfur has a structure composed of 8 sulfur atoms linked in a ring. *Realgar's* structure alternates between sulfur atoms and arsenic atoms producing rings of  $As_4S_4$ . The arsenic atoms affect the structure altering it from sulfur's orthorhombic symmetry to *realgar's* monoclinic symmetry. *Realgar* occurs in hydrothermal veins with valuable metal sulfide ores and its bright red color can be an aid to prospectors. It also can be found in hot spring deposits and as a volcanic sublimate product (crystallizing from vapors). *Realgar* is famous for some wonderfully beautiful specimens. Some specimens can have a deep ruby red color with an amazing clarity and a high luster. The color of *realgar* is truly something to appreciate and cherish. But *realgar's* beauty is sometimes fleeting.

It is an unstable mineral and will alter to a different mineral, *para realgar* and eventually to a powder. This process takes time and is accelerated by exposure to light. Specimens should be stored in dark, enclosed containers, and only exposed to light for the brief enjoyment of its owner and friends. This sounds extreme, but wonderfully beautiful *realgar* specimens are worth preserving for as long as possible. If you are wondering how quickly the deterioration occurs, the answer is immediately, but fortunately very slowly. Ancient Chinese carvings of *realgar* are still in existence, but badly affected by the deterioration. The deterioration of *realgar* was thought to produce the closely related yellow orpiment, but this was recently proven to be false and the deterioration product is in

fact yellow-orange pararealgar. In old paintings and manuscripts, realgar was a common pigment for paints and dyes. Many of these paintings now have a yellow or orange hue where once the color must have been an original red.

### PHYSICAL CHARACTERISTICS

**Color:** is orange to red.

**Appearance :** Crystalline salt.

**Luster:** is resinous, adamantine to sub-metallic.

**Transparency:** Crystals are translucent to transparent.

**Crystal System:** Monoclinic; 2/m.

**Crystal Habits:** include prismatic striated crystals with a rounded diamond-like cross-section. A wedge-like dome terminates them. Also found as grains, crusts and earthy masses.

**Cleavage:** is good in one direction.

**Fracture:** is subconchoidal.

**Hardness:** is 1.5 - 2

**Specific Gravity:** is 3.5 - 3.6

**Streak** is orange to orange-yellow.

### Other Characteristics

Realgar is unstable in light; specimens should be stored in complete darkness, rarely some specimens fluoresce under UV light and crystals are pleochroic between dark red and orange red. Associated Minerals almost always include orpiment, also calcite, stibnite and other metal sulfide ores. Notable Occurrences include most importantly Hunan Province, China; but also Switzerland; Japan; Macedonia; Mercur, Utah, USA; Romania and many other localities. Best Field Indicators are of course color as well as crystal habit, association with orpiment, softness and luster.

### PHYSICO-CHEMICAL PROPERTIES

Chemical structure: As<sub>2</sub>S<sub>2</sub>

Molecular weight: 213.97

Physical state at room temperature: Solid

Colour: Red-brown

Odour: None

Solubility: Practically insoluble in water

Major products of combustion: Sulphur-di-oxide gas and arsenic trioxide.

Flammability: Ignites at high temperatures

Boiling point: 565°C

Melting point: 320°C

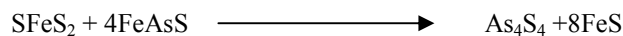
Density: alpha - 3.506

Beta - 3.254

Reactivity: No reaction with water.

**Uses:** Leather industry, depilatory agent, paint pigment, shot manufacture, pyrotechnics, rodenticide.

**Artificial preparation:** It may be prepared by heating together arsenic and sulphur in the proper proportions. It is commercially prepared by heating mixture of arsenical and copper pyrites in such quantities that sulphur and arsenic in proper proportion.



It can also be precipitated by strongly heating sodium bicarbonate solution containing arsenous sulphide. Arsenic disulphide is a naturally occurring form of arsenic and is found as realgar, one of the major arsenic containing minerals. Arsenic disulphide is insoluble in water and so poorly absorbed. It therefore represents a much less acute toxic hazard than soluble arsenic compounds.

Arsenic sulphide has been found in the flue dust of copper smelters. Historically arsenic sulphides were used as pigments and may have been a source of exposure for artists.

### DISCUSSION

According to *Shabda Kalpa Druma*, the word *Manashila* means pleasant to mind, looks like stone, has its own smell and attracts everyone.

- It has synonyms as *Manohva* (pleasant for mind), *Nagajihvika* (Snakes tongue), *Nepali* (found abundantly in Nepal), *Kunati* (as facial paint in drama), Gola, Shila, Kalyanika, Rasanetrika, *Manashila* (found in stone form),
- It belongs to *Uparasa Varga*. In *Rasatarangini*<sup>17</sup> it is explained under *Talakadi Vijnanam* and in *Rasamrutham*<sup>4</sup> it is explained under *Malla Vijnanam*.
- History of *Manashila* reveals that *Manashila* is one of the mineral drugs that have history of usage as old as *Vedic* period. In *Rigveda* its usage has been mentioned for environmental purification. Whereas in *Atharvaveda* and in *Purana Granthas* its external and internal usage is mentioned. It is also used in *Rasa Karma* and *Dhatu Ranjana*. *Chanakya* has mentioned in his *Artha Shastra*, its use in warfare as *Lepa* is mentioned.
- There are three types of *Manashila* as *Shyamangi*, *Kanaveera* and *Khandakhya*. But the author of *Ayurveda Prakasha* opines that *Manashila* is only a variety of *Talaka* and both can be differentiated by their colors red and yellow respectively. Most of the authors of *Rasashastra* opine that out of three types of *Manashila*, *Khandakhya* type is superior. (*Uttarothara Srestha*).
- According to *Rasa Tarangini*, *Manashila* which is devoid of stones and sand, as red as *Upala* flower, heavy and shiny is considered as good and will yield more *Satwa*.
- *Manashila*, not purified or improperly purified leads to *Asmhari*, *Mutrakrichram*, *Mandagni*, *Malabandha*, *Kanthinasa* etc. The anti dote is Honey + milk - 3 days with wholesome diet relieve complications

### MANASHILA GUNAS

*Manashila* has *Katu*, *Tikta Rasa*, *Snigdha*, *Ushna*, *Guru Guna*, *Ushna Virya*, *Lekhana*, *Kapha Hara Karma* and *Visha Nashaka Prabhava*. It cures disease like *Kasa*, *Shwasa*, *Bhutopadrava*, *Agnimandhya*, *Kshaya*, *Anaha*, *Kandu*. If

consumed for more days it acts as *Rasayana*, cures *Jwara*, *Varnya*, *Visha Nashaka*. According to *Rasa Tarangini* dose is 1/24 *Ratti* to 1/16 *Ratti* (5.2-7.8 mg) but in Hindi commentary by *Sadanand Sharma* mentions as 1/32 *Ratti* to 1/16 *Ratti* (3.9-7.8 mg)

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**Substance name:** Arsenic disulphide (Figure-2)

**Formula:**  $As_2S_2$ ,  $As_4S_4$

**Class:** Sulphides and Sulfosalts

**Synonyms:** Arsenic sulphide

#### Conclusion

- *Manashila* is a well-known drug from the *Vedic* period and described in many legend *Ayurvedic* classics and *Rasa Granthas*.
- *Manashila* was used as a painting agent in wall drawings.
- *Manashila* is used both internally and externally.
- Out of three types of *Manashila*, *Khandakhya Manashila* is therapeutically used in most of the *Rasa Granthas* (*Uttarottara Sreshtha*) and yields more *Satwa*.
- *Shuddha Manashila* is not used alone. It is administered along with herbal drugs or is an important ingredient in popular formulations like *Shwaskuthara Rasa*, *Kalanala Rasa*, *Trilokyachintamani Rasa*, *Kshayakesari Rasa*, *Manashiladhi Ghrita* etc.

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