



Review Article

A CONCEPTUAL REVIEW ON HINGULA (CINNABAR- HgS)

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ABSTRACT

*Rasa Shastra* the unique branch of Ayurveda deals in detail about pharmaceutical and therapeutic uses of various metals, minerals and marine drugs. *Hingula* (cinnabar) is one among several important drugs in Ayurveda which is used as single remedy or as an ingredient in various herbo-mineral preparations. By most of the Ayurvediya *Rasa Shastra* classics, it is grouped under *Sadharana Rasa Varga*. *Hingula* is the prime source of mercury. Chemically it consists of mercury (86%) and Sulphur (13.5%), with molecular formula HgS, called as red sulphide of Mercury. About 20 books of *Rasa Shastra* are reviewed by the author in an attempt to provide the detailed description about *Hingula* like its occurrence, synonyms, classification, pharmacological properties, *Ashuddha Hingula Dosha*, its antidote, *Shodhana, Marana*, therapeutic dose, therapeutic indications, *Sattvapatana*, artificial methods of cinnabar preparation, methods of extraction of mercury from *Hingula* and various specific formulations mentioned in classics. Purified *Hingula* is useful in the treatment of all types of eye diseases (*Netra Roga*), it mitigates all the three vitiated *Doshas*. It is best remedy for the disorders of liver, pancreas, rheumatoid arthritis (*Amavata*), diabetes mellitus (*Prameha*) fever, spermatorrhoea and leprosy, skin diseases (*Kushtha*). It is useful in *Parada Jarana* procedure (increasing therapeutic potency of mercury). The mercury extracted from cinnabar (*Hingulottha Parada*) is equivalent to *Ashtsamskrita Parada* which is used in the preparations. It also possesses all the properties of *Gandhaka Jaarita Parada* (digestion of sulphur in mercury). It is used in the incineration procedures of gold, silver etc metals.

**KEYWORDS:** *Hingula*, Cinnabar, *Hingulottha Parada*, *Hingula Nirmana*.

INTRODUCTION

SYNONYMS<sup>[1-3]</sup>

*Hingula*    *Rasagarba*    *Ingula*            *Kapishirshaka*  
*Darada*    *Barbara*        *Chitraanga*    *Raktakaaya*  
*Choorna*    *Rakta*            *Rasodbhava*    *Hamsapaada*  
*paarada*    *Maleccha*        *Rasasthaana*    *Ranjana*  
*Suranga*

Varga

*Maharasas* : *Rasarnava*, R.H.T., R.K.D.

*Sadharanarasa*: R.R.S, R.Mi, R.M, R.B,

Vernacular names:

Sanskrit - *Hingulam*

Hindi- Singarif

Urdu- Shangarf

Kannada- Ingalika

(Types) *Bheda*

Telugu- Inguliyakam

Tamil- Lingam

Malayalam- Chayilyam

English- Cinnabar

Occurrence<sup>[4]</sup>

As per classics:

*Darada Desha, Mleccha.*

At present it is available in two forms:

1. Native form
2. Artificial form

Naturally available in- Spain, Italy, France, Germany, China, Japan.

Artificial methods of preparation are explained in *Rasa* classics.

Si.No	Number	Name	Author
1.	2 types	1. <i>Shuka Tunda Hingula / Charmaara Hingula.</i> 2. <i>Hamsapaada Hingula</i>	<i>Rasa Ratna Samucchaya, Rasendra Chudamani</i>
2.	2 types	1) <i>Khanija Hingula</i> (Natural Cinnabar)	<i>Rasa Tarangini, Rasa Tantra Sara Va</i>

		2) <i>Krutrima Hingula</i> (Artificial Cinnabar by using mercury and sulphur)	<i>Siddha Yoga Sangraha, Rasendra R.Sambhava</i>
	2 types	1. <i>Hamsapaada Hingula</i> 2. <i>Mlecchaka</i>	<i>Rasamrutam</i>
3.	3 types	1) <i>Charmaara Hingula</i> 2) <i>Shuka Tunda Hingula</i> : 3) <i>Hamsapaada Hingula</i>	<i>Ayurveda prakash, Rasa Jala Nidhi, Rasa Ratnakara, BRRS, Aananda Kanda, Rasendra Bhaskara, Rasarnava</i>

### Among three types

1. *Hamsapada Hingula* (Red color like 'Japa Kusuma'/coral color /hibiscus flower color) considered as best and most potent variety.
2. *Shuka Tunda Hingula* (Parrot beak color) medium potent.
3. *Charmaara Hingula*: less potent.

### Pharmacological Properties of Hingula<sup>[5]</sup>

*Rasa- Tikta, Kashaya and Katu*

*Guna- Guru, Snigdha*

*Virya-Ushna*

### Necessity of Purification

Administration of impure *Hingula* leads to various hazards on health. Conditions are listed down as per various *Rasa* classics.

Sl.no	Dosha	Bruhat Rasa Raja Sundara	Rasa Jala Nidhi	Rasendra Chintamani	Yoga Ratnakara	Ayurveda Prakash	Rasa Tarangini	Rasendra Sambhava
1.	<i>Kushtha</i> (skin diseases)	✓	✓	✓	-	-	-	✓
2.	<i>Klaibya</i> (Impotence)	✓	✓	✓	-	-	-	✓
3.	<i>Klama</i> (tiredness)	✓	✓	✓	✓	✓	✓	✓
4.	<i>Bhrama</i> (Giddiness)	✓	✓	✓	✓	✓	-	✓
5.	<i>Moha</i> (psychosis)	✓	✓	✓	✓	✓	✓	✓
6.	<i>Andhyata</i> (blindness)	-	-	-	✓	✓	✓	-
7.	<i>Meha</i> (Diabetes mellitus)	-	-	-	✓	✓	✓	-
8.	<i>Chittavibhrama</i> (delirium)	-	✓	-	-	-	✓	-

### Antidote<sup>[6]</sup>

1. *Shu. Gandhaka* (purified sulphur) + ghee mixed and given internally. R.B<sup>[6]</sup>

### Purification (*Shodhana*)

S.No.	Procedure	Duration	Reference
1.	<i>Bhavana</i> (Ligation) with <i>Aardraka Swarasa</i> (ginger juice)	7 times	R.T, R.chu, RRS, A.P, R.JN, BRRS, R.Mi, R.Sa.Sang
2.	<i>Bhavana</i> (Ligation) with <i>Lakucha Swarasa</i> ( <i>Artocarpus lakoocha</i> )	7 times	R.T,RRS, AP,R.JN, BRRS, R.Sa.Sang, R.chu

3.	<i>Bhavana</i> (Ligation) with <i>Meshidugdha</i> (sheep's milk)	7 times	RT, RRS, R.JN, A.K, BRRS, Y.R, R.chi, R.Sambhava, R.bhas, Rasarnava. R.Mi, R.M
4.	<i>Bhavana</i> with <i>Amlavarga</i> (citrus group)	7 times	RT,RRS, R.JN, BRRS, R.Sa.Sang, R.chi, A.K, R.bhas, Rasarnava, R.M
5.	<i>Bhavana</i> (Ligation) with <i>Kamala Patra Rasa</i> (lotus petal juice)	3 hours	Y.R
6.	<i>Bhavana</i> (Ligation) with <i>Nimbuk Rasa</i> (lemon juice)	7 times	RT, RRS, R.Mi R.Sambhava, R.bhas, Siddha yoga sangraha.
7.	<i>Bhavana</i> (Ligation) with <i>Beejapoorak Rasa</i> (big/wild lemon juice)	3 times	RRS
8.	<i>Bhavana</i> (Ligation) with <i>Mahisha Ksheera</i> (buffalo's milk)	7 times	R.Sa.Sang, R.Sambhava
9.	<i>Swedana</i> (suddation) in <i>Dolayantra</i> with <i>Jambeera Drava</i> (big/wild lemon juice)	3 hours	RRS, RJ,N
10.	<i>Swedana</i> in <i>Dolayantra</i> with <i>Jayantirasa/ Gomootra/ Kaanji</i>	3 hours	BRRS, RJN
11.	<i>Swedana</i> (suddation) in <i>Dolayantra</i> with <i>Lakucha Swarasa (Artocarpus lakoocha)</i>	3 hours	R. Pra. Su

### Shuddha Hingula Maatra (Dosage)

½ - 1 Ratti<sup>[7]</sup> (1 Ratti= 125mg) or

½- 2 Ratti<sup>[8]</sup>

### Therapeutic Utility of Shuddha Hingula <sup>[9, 10, 11]</sup>

*Shuddha Hingula* (cinnabar) when judiciously used in the form of suitable compound formulation and in proper dosage is beneficial in all types of eye diseases (*Netra Roga Hara*), it mitigates all the three vitiated *Doshas*. It is good appetizer, rejuvenator and aphrodisiac. It is the best remedy for the disorders of liver, pancreas, rheumatoid (arthritis *Aamavata*), diabetes mellitus (*Prameha*) and fever, is nutritive,

### Incineration (Maarana)

cures spermatorrhoea and leprosy. It is useful in the treatment of *Gara Visha* (food poisoning), skin diseases (*Kushtha*). It enhances body strength, memory, facial glow and power of digestion. It is useful in *Parada Jarana* procedure (increasing the therapeutic potency of mercury). The mercury extracted from cinnabar (*Hingulottha Parada*) possesses all the properties of *Gandhaka Jaarita Parada* (digestion of sulphur in mercury). It is used in the incineration procedures of gold, silver etc metals.

Sl.no	Procedure	Putra	Reference
1.	<i>Shuddha Hingula</i> (cinnabar) is rolled in thin cloth and placed in <i>Neela Kanda</i> to this 1 <i>Angula</i> thick mud dipped cloth is applied. In the same way <i>Hingula</i> rolled cloth is placed in <i>Mandara Phala</i> , <i>Indravaruni Phala</i> , <i>Amlavetasa Phala</i> separately.	100 <i>putas</i> each with <i>Neela Kanda</i> , <i>Mandara Phala</i> , <i>Indravaruni Phala</i> , <i>Amlavetasa Phala</i> (each <i>Putra</i> with 10 <i>Vanopalas</i> ).	A P 2/76
2.	3 <i>Ratti</i> (750mg) of <i>Shuddha Haratala</i> + 1 <i>Tola</i> (12gm) <i>Shuddha Hingula</i> + 2 <i>Tola</i> (12gm) ginger juice + 4 <i>Masa</i> clove powder are taken in 1 <i>Sharava</i> (mud plate) and covered with another <i>Sharava</i> (mud plate) facing mouth each other and sealed properly with mud dipped cloth and dried under shade, after self cool <i>Hingula Bhasma</i> is collected.	This apparatus is kept over stove on mild fire for 3 <i>Ghati</i> .	Rasendra Sambhava 72-74 ( p.no 102)

\*Colour of *Hingula Bhasma* - 'Red'

***Hingula Bhasma Guna***<sup>[12]</sup>: Can cure almost all types of diseases, anaemia and is used as synergic with other formulations.

***Hingula Bhasma Maatra***<sup>[13]</sup>: 1 *Ratti*

***Krutrima Hingula Nirmana (Hingulotpatti)***:

1. 8 parts of sulphur and 42 parts of *Parada* (mercury) are taken in *Mrudanga Yantra* (apparatus)

and its handle is twisted. Due to the pressure generated amalgam (*Parada Gandhaka*) shining powder is collected. Now the *Yantra* (apparatus) is opened and remaining greyish (*Dhusara Varna*) powder is collected and preserved in a ridged container. This is closed with another *Yantra* (apparatus) facing each other and is subjected to low flame (*Manda Agni*). After *Swaangsheet* (self-cool) when the *Yantra* (apparatus) is separated, at the neck of upper vessel soft *Hingula* (cinnabar) collected is taken out and stored.<sup>[14]</sup>

2. *Ashuddha Paarada* (raw mercury) 1 part+ *Ashuddha Gandhak* (sulphur) 4 parts taken in *Loha Paatra* (iron vessel) and heated on low flame (*Swalpaagni*). To this 1/10 part of *Manashila* is added mixed well and the mixture is allowed to cool and filled in glass bottles. These glass bottles are smeared with 1 *Angula* thick mud dipped cloth. Bottles are dried in shade. It is subjected to mild heating on *Valukayantra* (heating apparatus). It is heated in order of *Mrudu*, *Madhyama* and *Teekshana Agni* (in gradually increasing pattern of heat) for 5 days. The *Hingula* (cinnabar) prepared in this way for 1 week is considered to be the best.<sup>[15]</sup>

3. One part of mercury + four parts of sulphur taken in iron vessel and heated for some time. This amalgum is made into pieces and filled in bottle (which is coated with 7 layers of mud immersed cloth and dried under shade previously) this bottle is placed in *Valuka Yantra* (heating apparatus) for 5 days in a gradually increasing pattern of heat. After completing the procedure bottle is taken out, break open and *Hingula* (cinnabar) is collected.<sup>[16]</sup>

4. In an iron pan required quantity of *Hingula* is taken and heated when it gets completely hot, equal quantity of goat's milk is added and stirred well. When the milk part gets reduced again the same quantity of milk is added, and method of adding milk is repeated for 10 times. In the same way the procedure of adding 10 times of *Arka Dugdha*, *Dipta Varga*, *Pilu Rasa* for 5 times, and *Dugdha Varga* 5 times is carried out. *Hingula* prepared in this manner is called as '*Shatark Hingula*'.<sup>[17]</sup>

5. One part of mercury + four parts of borax taken in iron vessel and heated on low fire for few minutes then 1/10<sup>th</sup> part of real gar powder (*Manashila*) to that of mercury is added and continuously stirred with iron spatula till the complete amalgam is formed. After self cool the mass is broken into pieces filled in bottle (which is coated with 7 layers of mud immersed cloth and dried under shade previously), this bottle is kept in *Valuka Yantra* (heating apparatus) for 5 days in a gradually increasing pattern of heat. After completing the procedure

bottle is taken out, break open and *Hingula* (cinnabar) collected is called as *Manohara Hingula*<sup>[18]</sup>.

### **Sattwa Paatana/ Hingulotha Paarada Nirmana**

#### **1. Urdhwapaatana Vidhi<sup>[19]</sup>**

*Hingula* is given 7 *Bhavana* of *Nimbu Swarasa* (lemon juice) or *Lakucha Swarasa* or *Aardraka Swarasa* (ginger juice). The dried *Hingula* (cinnabar) powder is taken in lower pot of *Urdhwapaatana Yantra* (distillation apparatus). It is covered with another pot facing neck to each other and sealed properly. Lower pot is subjected to heat. Wet cloth is placed on upper pot for condensation purpose. The evaporated mercury gets collected as the tiny droplets at the inner surface of upper pot. After complete evaporation *Hingulotha Paarada* (cinnabar) is collected, washed and used.

#### **2. Adha Patana Yantra Method<sup>[20]</sup>**

*Hingula* (cinnabar) is triturated with *Aardraka Swarasa* (ginger juice) or *Lakucha Swarasa* or *Nimbuka Swarasa* and paste is prepared. This paste is applied at the inner surface of upper pot of *Adha Paatana Yantra* (distillation apparatus). In the lower pot which is buried in earth with neck above, enough quantity of water is taken. The *Hingula* (cinnabar) paste applied pot is placed inverted over buried pot and the mouths are sealed. From above the dry cow dung cakes are heated up and ignited to apply moderate heat of 3 *Prahara* (3 hours). So that the *Parada* (mercury) from base of upper pot gradually trickles down and gets collected at the base of the lower pot. Later the *Yantra* (apparatus) is allowed to cool down over night on its own. Next morning pots are separated and *Hingulotha Parada* (cinnabar) at the base of lower pot is collected.

#### **3. Nada Yantra Method<sup>[21]</sup>**

Equal quantity of white cotton cloth is taken, onto this *Shodhita Hingula* is uniformly spread. This cloth is rolled from both the sides with opposite direction and bolus like is made, tied up loosely by cotton thread. The bolus is placed in mud plate (*Sharava*) and placed at the centre of a large steel tray. The bolus is ignited and exposed to air for few minutes. When the ignition is uniformly started *Sharava* is covered by nada fully on 3 small pieces of tiles which are put around the *Sharava*. The cotton bolus is allowed to burn continuously for 12 hours till it burns completely. After self-cooling (app 24 hours), *Nada Yantra* is removed, mercury is procured, filtered through cloth washed with hot water and stored. This *Parada* is called as *Hingulotha Parada* extracted mercury from purified Cinnabar).

### **Cinnabar**<sup>[22]</sup>

- Is an ore of Mercury.
- Also called as native vermillion or Cinnabarite.
- Derived from Greek word "Kinnaban" ore of mercury
- Chemically red sulphide of mercury.
- About 86.2% of Mercury and 13.5% Sulphur.
- Generally found in a massive granular or earthy form and is bright scarlet to brick red in color.
- Occasionally crystals with adamantine luster.
- Ancient times it has been mined for use as pigment as well as for mercury. Crushed cinnabar is roasted in rotary furnace to get quicksilver (Hg).

### **Mineralogical properties**

**Cleavage:** Perfect

**Color:** Lead gray, Brown, Brown pink, Vermilion, Gray.

**Luster:** Adamantine

**Streak:** bright red

**Fracture:** Brittle- Sectil- Brittle fracture with slightly sessile shavings possible.

**Hardness:** 2-2.5 - Gypsum- Finger Nail

**Density:** 8.1

**Diaphaneity:** Transparent to translucent

**Crystal system:** Triagonal trapezohedral

**Habit:** Massive- Uniformly indistinguishable crystals forming large masses.

It does not have any taste and smell.

It is insoluble in water.

When exposed to environment, it will not undergo oxidation.

Does not react to acids like HNO<sub>3</sub> or HCL.

### **Some Preparations of Hingula are Mentioned in Rasa Classics**

#### **Hinguladhya Malahara**<sup>[23]</sup>

#### **Method of preparation**

*Shuddha Siktha Taila* 12 Tola+ *Sindhoora* and *Hingula* 1/2 Tola each are mixed well in *Khalwa Yantra* and stored in glass bottle. This is called as *Hingula Malahara*.

**Indication:** For external application on the ulcers caused due to syphilis.

#### **Hingula Amruta Malahara**<sup>[24]</sup>

**Method of preparation:** *Shuddha Siktha Taila* 12 Tola+ *Hingula Churna* Ardha Tola+ *Mruddharshringa*, *Tankana Churna*, *Rasa Karpoora*, *Kaankshi*, *Sindhoora* all are taken 2 *Masha* each. This mixture is well mixed in *Khalwa*. Stored in glass bottle.

**Indication:** It is for external application of various skin diseases. It heals ulcer mainly in fistula in ano.

### **Shri Siddha Daradaamruta**<sup>[25]</sup>

This *Yoga* is beneficial in *Urustambha*, *Aamavata*, *Pakshaghaata*, *Sheetang Sannipata*, *Sannipatika Pleeha Vruddhi*, *Bhayankara Napunsakata*.

**Dose:** 1/2 Ratti

### **Hingula Maanikya Rasa**<sup>[26]</sup>

*Shuddha Hingula* 8 Tola+ *Shuddha Gandhaka* 8 Tola+ *Shuddha Hatataala* 8 Tola are triturated with *Palash Pushpa Swarasa* for 7 times. Powder obtained is collected and dried, filled in *Kupi*. Placed in *Valukayantra* and subjected to *Manda*, *Madhyama* and *Teekshana Agni* in order for 3 days. After *Swaangsheet* at the neck of *Kupi Rasa Sindura Varna Sadrusha Manikya Rasa* is collected.

**Indications:** *Grahani Roga*, *Puratana Atisara*, *Rakta Vikruti Janya Vikaara*, enhances *Bala* and *Veerya*, it is rejuvenative.

**Dose:** 1 yava- 3 yava

### **Shri Siddha Hinguleshwara**<sup>[27]</sup>

*Shuddha Hingula* is triturated with *Dhattura Moola Swarasa* for 7 times and dried. Now to this equal quantity of *Tankana Churna* is added. This mixture is mixed well.

**Maatra:** 1/2 ratti

**Indications:** *Daaha*, *Moorcha*, *Trushna*, *Jwara Nashaka*, *Krimi Nashaka*, it is best in *Jwaratisara*.

**Hingula Yoga**<sup>[28]</sup>: 375mg of *Shu. Haratala* is triturated with water dried, and taken in mud plate to this 12gms of *Shu Hingula* is added to 24ml of ginger juice are added, *Shu. Gandhaka* (Sulphur) powder is sprinkled all over, covered with another mud plate proper sealing with mud dipped cloth, dried, kept on stove over mild fire for 3 hours, later on self cool, seal is opened the drug is collected and stored.

**Dosage:** 1 Ratti with *Tambulapatra Swarasa* and honey.

**Indications:** *kshaya*, *Shoola*, *Kaasa*.

**Swarna Nirmana from Hingula**<sup>[29]</sup>: *Hingula* is given *bhavana* with *Meshi Dugdha/Aamla Varga* for 7 times. And this *Shodhita Hingula* is used for the preparation of gold (w.r.t *Lohavada*).

### **DISCUSSION**

*Hingula* is chemically Red sulphide of Mercury or Cinnbar, as it contains Mercury (86%) and Sulphur (13.5%). Chemical formula is HgS.

Therefore, in *Rasa* classics various synonyms are given to *Hingula* like *Rasa Garbha*, *Choorna Parada*, *Rasodbhava*, *Rasa Sthana*.

Among three types of *Hingula*, *Hamsapada Hingula* (Red colour like '*Japa Kusuma*'/ coral color /hibiscus flower color) is considered as best and most potent.

*Shodhana* mentioned in Ayurvedic classics is a mandatory procedure before using any substance (metal, minerals or poisonous drugs) as medicine. It not only removes impurities and removes toxic effect but also does certain modifications in substance that facilitates the pharmaceutical process, helps in easy administration and achieving required therapeutic efficacy. *Hingula Shodhana* is mainly done by 2 methods.

1. Lavigation (*Bhavana*) method using various liquid media like *Aardraka Swarasa* (ginger juice)/ *Lakucha Swarasa* (*Artocarpus lakoocha*)/ *Meshidugdha* (sheeps milk)/ *Amlavarga* (citrus group)/ with *Nimbuk Rasa* (lemon juice)/ *Beejapoorak Rasa* (big/wild lemon juice)/ *Mahisha Ksheera* (buffalo's milk).

2. *Swedana* (suddation) in *Dolayantra* (apparatus) with *Jambeera Drava* (big/wild lemon juice)/ *Jayantirasa*/ *Gomootra*/ *Kaanji*/ *Lakucha Swarasa* (*Artocarpus Lakoocha*).

*Shuddha Hingula* (cinnabar) can be used as single remedy or as an ingredient with other herbo-mineral drugs, when judiciously used in the form of suitable compound formulation and in proper dosage is beneficial in all types of eye diseases (*Netra Roga Hara*), it mitigates all the three vitiated *Doshas*. It is good appetizer, rejuvenator and aphrodisiac. It is best remedy for the disorders of liver, pancreas, rheumatoid arthritis (*Aamavata*), diabetes mellitus (*Prameha*) and fever, is nutritive, cures spermatorrhoea and leprosy. It is useful in the treatment of *Gara Visha* (food poisoning), skin diseases (*Kushtha*). It enhances body strength, memory, facial glow and power of digestion.

Based on occurrence there are 2 types i.e., natural and artificial. Natural form is the prime source of mercury. Through sublimation (*Patana Yantra*) procedure about 75-80% of *Hingula* can be collected. And this extracted *Parada* is considered as equal to *Ashtasamskarita Parada* in its therapeutic qualities.

*Hingula* can be prepared artificially by various methods.

- Using equal quantity of unpurified mercury, sulphur.
- By using 8 parts of sulphur and 42 parts of *Paarada* (mercury) in a specific apparatus called *Mrudanga Yantra*.
- Ashuddha Paarada* (raw mercury) 1 part+ *Ashuddha Gandhak* (sulphur) 4 parts.
- One part of mercury + four parts of borax + 1/10<sup>th</sup> part of real gar powder (*Manashila*).
- '*Shatark Hingula*': In an iron pan required quantity of *Hingula* is taken and heated when it gets completely hot, equal quantity of goat's milk is added and stirred well. When the milk part gets

reduced again the same quantity of milk is added, and method of adding milk is repeated for 10 times. In the same way the procedure of adding 10 times of *Arka Dugdha*, *Dipta Varga*, *Pilu Rasa* for 5 time, and *Dugdha Varga* 5 times is carried out. *Hingula* prepared in this manner is called as '*Shatark Hingula*'.

**Few references are available about *Hingula Marana* viz.**

**As per A.P:** *Shuddha Hingula* (cinnabar) is rolled in thin cloth and placed in *Neela Kanda* to this 1 *Angula* thick mud dipped cloth is applied. To which about 100 *Kapota Putas* (10 *Vanopalas* are used) is given. In the same way *Hingula* rolled cloth is placed in *Mandara Phala*, *Indravaruni Phala*, *Amlavetasa Phala* separately and *Kapota Puta* is given.

**Rasendra Sambhava:** 3 *Ratti* (750mg) of *Shuddha Haratala*+ 1 *Tola* (12gm) *Shuddha Hingula*+ 2 *tola* (12gm) ginger juice+ 4 *Masa* clove powder are taken in 1 *Sharava* (mud plate) and covered with another *Sharava* (mud plate) facing mouth each other and sealed properly with mud dipped cloth and dried under shade, this apparatus is kept over stove on mild fire for 3 *Ghati*. After self-cool *Hingula Bhasma* is collected.

Cinnabar is an ore of mercury. Also called as native vermilion or cinnabarite. Chemically red sulphide of mercury. About 86.2% of Mercury and 13.5% Sulphur. Generally found in a massive granular or earthy form and is bright scarlet to brick red in colour. Ancient times it has been mined for use as pigment as well as for mercury. Crushed cinnabar is roasted in rotary furnace to get quicksilver (Hg).

Some preparations of *Hingula* are mentioned in classics:

- Hinguladhya Malahara*:  
Indication: for external application on the ulcers caused due to syphilis.
- Hingula Amruta Malahara*:  
Indication: It is for external application of various skin diseases. It heals ulcer mainly in fistula in ano.
- Shri Siddha Daradaamruta*:  
Indication: This yoga is beneficial in *Urustambha*, *Aamavata*, *Pakshaghaata*, *Sheetang Sannipata*, *Sannipatika Pleeha Vriddhi*, *Bhayankara Napunsakata*.
- Hingula Maanikya Rasa*:  
Indications: *Grahani Roga*, *Puratana Atisara*, *Rakta Vikruti Janya Vikaara*, enhances *Bala* and *Veerya*, it is rejuvenative.
- Shri Siddha Hinguleshwara*:  
Indications: *Daaha*, *Moorcha*, *Trushna*, *Jwara Nashaka*, *Krimi Nashaka*, it is best in *Jwaratisara*.

6. *Hingula Yoga*:

Indications: *Kshaya, Shoola, Kaasa. Rasrnava* describes use of *Shuddha Hingula* in gold preparation.

**CONCLUSION**

- *Hingula* (cinnabar) is prime source of Mercury. Hence the synonyms like *Rasa Garbha, Choorna Parada, Rasodbhava, Rasa sthana* are given.
- As unfortunately ores of *Hingula* (cinnabar) are not found in India, artificially prepared is used for the therapeutic preparations.
- *Shodhana* (purification) is a mandatory procedure before using it as medicine.
- Pharmacological properties are: *Rasa- Tikta, Kashaya* and *Katu, Guna- Guru, Snigdha, Virya-Ushna*
- *Shodhita Hingula* (cinnabar) is very good medicine in various conditions like *Jwara* (fever), rheumatoid arthritis (*Aamavata*), diabetes mellitus (*Prameha*) cures spermatorrhoea, leprosy, skin diseases (*Kushtha*).
- *Parada* (Mercury) extracted from *Hingula* is considered as equal in properties to that of *Ashtamskarita* (processed) *Parad* (Mercury) and can be used directly in the formulations, but in case *Hingula* (cinnabar) is of artificially prepared then *Parada* (Mercury) extracted should be used therapeutic purposes after *Samanya Shodhana* (purification) as a safety aspect.
- Among various methods of artificial preparation of *Hingula* (cinnabar), the method wherein equal ratio of *Parada* and *Gandhaka* used can be taken as considerably more potent.
- *Hingula* (cinnabar) *Bhasma* cure almost all types of diseases, is used as synergic with other formulations.
- It is useful in *Parada Jarana* procedure (increasing the therapeutic potency of mercury).
- It is used in the incineration procedures of gold, silver etc metals.
- *Shodhita Hingula* (cinnabar) is also used in the preparation of gold as per *Rasarnava*.

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