

## A CRITICAL REVIEW ON MAMSAROHINI

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## ABSTRACT

The indigenous drug *Mamsarohini* (*Soymida febrifuga* A Juss), found in dry deciduous forests, possess high medicinal values and known for its *Mamsarohana*, *Rasayana*, *Balya*, *Vranaropana* and *Varnya* actions. Though the drug has significant medicinal value, there are only few scattered references. The term *Mamsarohini* is not found in *Bruhatrayee*, but the drug *Rohini* is explained in *Balya gana* of *Charaka samhita*, *Astanga sangraha* and in *Nyagrodaadi gana* of *Sushruta samhita*. Later during the *Nighantu* period it has been explained in detail for its medicinal properties. Hence here is an attempt to review this drug in detail.

**Keywords:** *Mamsarohini*, Review, *Soymida febrifuga* A Juss.

## INTRODUCTION

*Soymida febrifuga* A Juss / *Swietenia febrifuga* Wild is a tree of considerable size not uncommon in the forests of Central and Southern India. Its timber called as Bastard Cedar is durable, strong and much valued for building purposes. *Mamsarohini* has been explained for its *Balya* and *Rasayana karma*. It has synonyms such as *Charmakari*, *Pishitarohini* etc. which indicates its action at the level of *Twak* and *Mamsa dhatu*, for example Re-approximation of skin edges, wound healing and building up of Musculature where ever there is depletion. The drug has been extensively used in leather industry for tanning purpose. *Varnya karma* is attributed to *Mamsarohini* in *Dhanvantari* and *Raja nighantu*.

## REVIEW OF LITERATURE

“*Soymida*” is from Telugu name ‘Somida’ meaning “Swami / God” and “*febrifuga*” is from the Latin words ‘febris’ meaning “fever” and ‘fugare’ meaning “to expel”<sup>1</sup>

The history of botanical source of *Soymida febrifuga* A Juss is explained in **Pharmacographia Indica**. The drug is explained in Meliaceae family as *Cortex soymida* / *Cortex swietenia*. The introduction of *Rohun* bark into the medical practice of Europeans is due to Roxburgh who recommended the drug as a substitute for Cinchona, after numerous trials made in India in the year 1791. At the same time he sent supplies to Edinburgh, where Duncan made it the subject of a thesis which probably lead to it being introduced into the *Materia Medica* of Edinburgh Pharmacopoeia of 1803, and of the

Dublin Pharmacopoeia of 1807.<sup>2</sup> The description of *Mamsarohini* is found in following *Nighantu*'s- *Dhanvantari Nighantu*,<sup>3</sup> *Shodala Nighantu*,<sup>4</sup> *Madanapala Nighantu*,<sup>5</sup> *Siddhamantra*,<sup>6</sup> *Raja Nighantu*,<sup>7</sup> *Kaiyadeva Nighantu*,<sup>8</sup> *Bhavaprakasha Nighantu*,<sup>9</sup> *Nighantu Ratnakara*,<sup>10</sup> *Nighantu Adarsha*,<sup>11</sup> *Priya Nighantu* (Table 3).<sup>12</sup>

The term *Mamsarohini* is derived from the root “*Mamsam rohayati*” meaning that which heals *Mamsadhatu*. The drug has various synonyms such as *Atiruha*, *Agniruha* etc. Synonyms mentioned by different authors (Table 1). *Charmakasha* and *Vrutta* has been explained by almost all authors, whereas few synonyms describing its action on *Mamsadhatu* such as *Mamsarohi*, *Mamsavrdhini*, *Pishitarohini* is quoted by *Acharya Narahari pandith*, *Shodala* and *Kaiyadeva* respectively. The drug is commonly known as Indian red wood. It is called as *Raktarohan*, *Kemmara* in Hindi and Kannada respectively indicating its blood red colored appearance when stem is cut. The regional names of South India indicate its importance as God/Swami and that of North India indicates its healing action (Table 2). It is one among the *Balya gana* of *Charaka samhita* and *Ashtanga sangraha*. *Acharya Sushruta* has included it in *Nyagrodaadi gana* (Table 3). The drug possess *kashaya rasa*, *sheeta virya*, *madhura vipaka*, *tridosha shamaka*, *picchila*, *sara guna*, and *karmas* such as *rasayana*, *varnya*, *balya*, *vrushya*, *kantya*, *krimighna*, *vranaropana* etc. The drug is mainly indicated in *raktapitta*, *sangrahani*, *krimi*, *kanta roga*, *vrana* etc. According to *Raja Nighantu*, it is considered as *sarvarogahara* (Table 4, 5 and 6)

The author of *Raja Nighantu*, *Pandith Narahari* has explained two varieties - *Rohini*

*dwaya* i.e. *Mamsarohini* (*Soymida febrifuga* Roxb. A. Juss) and *Mamsi* (*Nordostachys jatamamsi* D.C.) Both drugs are *sheeta virya*, *kashaya rasa* and have *krimihara* properties

### Controversy<sup>9,13</sup>

The paradigm about the exact identification of the plant *Rohini* in classics is very difficult due to its inadequate description in classics. *Rohini shaka* has been mentioned in *Charaka samhita* in the context of *virudha ahara*, where it is considered as the *nidana* for *raktapitta*. *Acharya Sushruta* also opines the same. Hence it can be inferred that, the then *Rohini* must be a plant source commonly used as a *shaka*. *Acharya Chakrapaani* has commented on *Rohini shaka* as *Katukarohini*. *Acharya Chakrapaani* has not commented on *Rohini* in *Charaka samhita*. *Acharya Dalhana*, while commenting on *Sushruta samhita* considers *Rohini* as *Katphala*, *Katuka*, *Rohini* - a type of *Haritaki* and *Katutumbi*.

As per *Bruhatrayee*, *Rohini* is *sheeta veerya*, *balya*, *kashaya tikta rasa pradhana* having *stanyashodhana*, *jwaraghna*, *raktashodhana*, *vishaghna*, *vranashodhana* properties. On the basis of these features many authors consider it as *Katuka*, but it is different from *Katuka* as both *Katuka* and *Rohini* are told separately in same context. i.e., in *Gulma chikitsa* both *Rohini* and *Katuka* are mentioned as the ingredients of *Rohinyadi grutha*. In the same way both *Rohini* and *Katuka* are mentioned as the ingredients of *Traayamanadi grutha*. But *Acharya Chakrapaani* considers it as *Katukarohini*.

According to P V Sharma, the above commentary does not hold good because if at all *Rohini* was *Katukarohini*, then *Rohinyadya grutha* would have been named as

*Katukarohinyadya grutha* or *Katukadya grutha*. There are references of *Rohini* which is mentioned along with *Katuka* in one context and with *tikta* in another context. So *Rohini* should be different from both of these drugs. Since *Rohini* is told in *Nyagrodhadhi gana* and the useful part being *twak* and *phala*, it should be a tree. Hence from the above explanation two trees can be considered i.e., *Soymida febrifuga* A. Juss, and *Vibrunum coriaceum* Blume. (*Tilwaka Bheda*). Based on the *rasapanchaka* and therapeutic potentials, *Rohini* can be considered as *Mamsarohini* (*Soymida febrifuga* A.Juss) as it has *jwaraghana*, *sangrahi*, *tikta rasa* and part used being *kaanda twak*.

According to *Bhavaprakasha Nighantu*, the plant *Rohini* is mentioned in *Balya gana* of *Charaka* and *Nyagrodaadi gana* of *Sushruta samhita*. *Acharya Dalhana*, while commenting on *Sushruta samhita* considers *Rohini* as *Katphala*, *Katuki*, *Katutumbi* and a type of *Haritaki*. Some of its important synonyms are *Raktarohan* and *Rohini*. These synonyms holds good for *Mamsarohini* and its bark is of *mamsa varna*. Hence confirmed as *Mamsarohini*.

#### Morphological description<sup>14, 15, 16</sup>

A moderate-sized tree grows up to 22-25 mts in height, 2.5-3.0 mts in girth.

**Bark:** Tough, exfoliating in plates or scales, brittle, plantlet with persistent leaf scars. Bark gives out blood red exudate after incision (figure 1).

**Leaves:** Leaves clustered at the tips of branches, Paripinnate up to 40 cm long, rachis and midrib is red, Leaflets are 3-6, Alternate, elliptic or oblong, 5-10 cm long, Entire, tip obtuse (figure 2) .

**Flowers:** In axillary and terminal panicles, greenish white. Flowering is from February-

April. **Fruit:** Pendulous, capsule, obovoid, woody, 5-6 cm long, 5 valved. Fruiting is from April Onwards (figure 3).

**Seeds:** Winged seeds.

#### Chemical constituents<sup>17</sup>

- Lupeol, sitosterol, and methyl angolensate isolated.
- In addition, deoxyandirobin isolated from wood and bark.
- Quercetin- 3- O – L- rhamnoside and 3 – 0 – rutinoid isolated from leaves.
- Two new tetranortriterpinoids (1 and 2) isolated from bark and their structures determined.
- Another new tetranortriterpinoid – febrifugin – isolated from heartwood and its structure elucidated.
- Naringenin, myricetin, dihydromyricetin, and quercetin, isolated from heartwood.
- A process for isolation of methyl angolensate and deoxyandirobin developed.
- Fibrins A and B isolated from heartwood and their structures determined.
- Three new tetranortriterpinoids – epoxyfebrinin B, 14, 15- dihydroepoxy febrinin band febrinolide – isolated from fruits and their structures elucidated deoxyandirobin 17b – hydroxyl – 6a – acetoxyazadiradione, methyl angolensate and sitosterol also isolated.
- Seed oil showed presence of linolic, linolenic, oleic, palmitic and stearic acids, lupeol and sitosterol.

#### Distribution<sup>15</sup>

*Soymida febrifuga* (Roxb.) A. Juss. (Meliaceae) is an Indigenous lofty deciduous medicinal tree endemic to India. It is distributed in the dry forests of peninsular India right up to Kerala. It also occurs in Gujrat, Uttar Pradesh, Bihar and Central In-

dia. The plant is more common in the hilly Districts of North West, Central and Southern India.

### **Cultivation and propagation**<sup>15,18</sup>

The plant is found on dry stony hills and on laterite soil. Direct sowing on ridges on 30 cm height, is more successful than transplanting the nursery raised plants. Propagated by seeds and germination is best in porous, well-drained soil but are liable to damp off in badly drained damp soils. Seedling growth is slow, sensitive to frost and growth ceases during the cold season. Tree is subjected to defoliation by insects.

Traditional multiplication of this plant is limited by difficulty in rooting of stem cuttings, high seedling mortality rates and low seed viability.

Tissue culture offers an effective alternative method for rapid multiplication of *S. febrifuga*.

If properly maintained, each forest division where the species is plentiful can supply 20 – 100 tones of timber annually.

### **Trade and commerce**<sup>17</sup>

The wood is used in house building as posts rafters, and beams, for well work, ploughshares, pestles, pounders, and furniture. It is also well suited for carving, turnery and timber bridges. On account of its ease in working and its hard surface, the timber may also be tried for wooden flooring. For all high class decorative work the wood compares well with Spanish mahogany; it makes high quality furniture with the appearance of Mahogany and could also be employed for frames, stiles and for framing lighter colored paneling. When cut into veneer, it is extremely ornamental and could be used for paneling railway carriages, for partition work in offices, and similar purposes.

Bark is a rich source of tanning material, and is used in leather industry. The leathers tanned by Indian red wood bark possess good color, good feel, and fullness and compare well with the usual East India (E.I.) tanned kits. Indian red wood bark therefore is a potential source of an indigenous tanning material, which can be substituted for imported wattle bark, for producing high grade leathers.

A clear gum varying in color from pale yellow to dark brown exudes from the bark forms good adhesive mucilage. The bark also yields a strong red fiber used for making ropes. Sometimes the bark is employed in dyeing cotton clothes.

### **Therapeutic uses**<sup>11, 19</sup>

1. Bark powder is given internally in *visshama* and *jirna jwara*.
2. 25 ml of *kashaya* is given thrice a day in malaria.
3. *Twak kashaya* is given in *kashtartava*.
4. *Kashaya* is used in treating *vrana*.

### **Posology**<sup>11, 19</sup>

Part used is Bark in different dosage forms such as *Churna*: 3-6 g, and *Kashaya*: 25 – 50 ml.

If taken excessively, reported to cause giddiness, drowsiness etc.

### **DISCUSSION**

The term *Mamsarohini* is not found in *Bruhatrayee*, but *Rohini* being one of the synonym of *Mamsarohini* has been explained in *Balya gana* of *Charaka samhita*, *Ashtanga sangraha* and in *Nyagrodhadhi gana* of *Sushruta samhita*. It has the synonym *Charmakasha* explaining its action on skin, *Mamsarohini*, *Pishitarohini* indicating its action on muscle tissue, According to *Raja nighantu* and *Dhanvantari nighantu*, *Mamsarohini* possess *katu tikta kashaya rasa*, *ushna virya*, *grahi*, *rasayana* and *varnya*

*karma*. But *Shodala nighantu* differs in saying that it possesses *kashaya rasa*, *picchila guna* and *shita virya*. *Bhava prakasha* and *Madanapala nighantu* ascribes *sara guna* in addition. *Priya nighantu* quotes *Kshata mamsaankura rohana* as an additional action. Based on the morphological characters, part used and actions of *Nyagrodhadi gana* it can be concluded that the *Rohini* mentioned in different *ganas* of *Bruhatrayee* is *Mamsarohini*.

## CONCLUSION

*Mamsarohini* is a moderate-sized indigenous tree found on dry stony hills and on laterite soil has vast uses both medicinally and commercially. It is an effective *Rasayana dravya*, develops the muscle tissue, and regenerates the skin on the wounds, if used in a proper way. A high dose intake is reported to cause giddiness, drowsiness and other toxic conditions. Hence a wise and judicious use of the plant has to be done to attain desired benefits and towards the conservation.

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Figure 1



Figure 2



Figure 3

**TABLE; 1: Showing Synonyms of *Mamsarohini* according to various authors**

NO	Synonyms	D N	S N	MP N	R N	K N	BP N	N A	P N
1	<i>Atiruha</i>	+	-	+	+	+	+	-	-
2	<i>Agniruha</i>	-	-	-	+	-	-	-	-
3	<i>Carmakasha</i>	+	+	+	+	+	+	+	-
4	<i>Kasa</i>	-	+	+	-	-	-	-	-
5	<i>Lomakarani</i>	-	+	-	-	-	-	-	-

6	Mamsarohini	+	+	+	+	+	+	+	+
7	Mamsaroha	+	+	-	-	-	-	-	-
8	Mamsarohi	-	-	-	+	-	-	-	-
9	Mamsaruha	-	-	-	+	+	-	-	-
10	Mamsavardhini	-	+	-	-	-	-	-	-
11	Pishitarohini	-	-	-	-	+	-	-	-
12	Praharavalli	-	-	-	-	+	+	-	-
13	Ruha	+	+	-	-	-	-	-	-
14	Rakta	+	-	-	-	-	-	-	-
15	Rohini	-	+	+	+	-	-	+	-
16	Suloma	-	+	-	-	-	-	-	-
17	Supacaa	-	+	-	-	-	-	-	-
18	Sukhadaayani	-	+	-	-	-	-	-	-
19	Vikasa	+	+	-	+	+	+	-	-
20	Vasa	-	-	-	-	-	+	-	-
21	Vrutta	+	+	+	+	+	+	-	-
22	Viravati	-	-	-	-	-	+	-	-
23	Viravalli	-	-	-	-	+	-	-	-

**Table 2: Showing Vernacular names of Mamsarohini -**

<b>English</b>	<b>Indian Red Wood, Red Wood Tree, Bastard cedar.</b>
<b>Hindi</b>	Mamsarohini, Rohana, Rohini, Rakta rohan, Rohina.
<b>Kannada</b>	Kemmara, Swamimara.
<b>Urdu</b>	Rohan
<b>Tamil</b>	Sem
<b>Telugu</b>	Somi
<b>Marathi</b>	Rohuna
<b>Gujarati</b>	Rohani
<b>Spanish</b>	Cardamomo
<b>German</b>	Kardamome

**Table 3: Showing the classification according to various authors.**

<b>CLASSICAL TEXT</b>	<b>GANNA/VARGA</b>
<i>Charaka Samhita</i>	<i>Balya gana</i>
<i>Sushrutha Samhita</i>	<i>Nyagrodhadhi varga</i>
<i>Dhanwantari Nighantu</i>	<i>Karaveeradi varga</i>
<i>Shodala Nighantu</i>	<i>Karaveeradi varga</i>
<i>Madanapala Nighantu</i>	<i>Abhayaadi varga</i>
<i>Siddhamantra</i>	<i>Pittaghna varga</i>
<i>Raja Nighantu</i>	<i>Chandanadi varga</i>

<i>Kaiyadeva Nighantu</i>	<i>Oshadhi varga</i>
<i>Bhavaprakasha Nighantu</i>	<i>Guduchyadi varga</i>
<i>Adarsha Nighantu</i>	<i>Nimbadi varga</i>
<i>Priya Nighantu</i>	<i>Sharaadi Varga</i>

**Table 4: Showing *Rasapanchaka* of *Mamsarohini* according to various authors**

<i>Nighantu's</i>	<i>Rasa</i>	<i>Guna</i>	<i>Veerya</i>	<i>Vipaka</i>	<i>Doshagnata</i>
D N	<i>Katu, Tikta, Kashaya</i>	-	<i>Ushna</i>	-	<i>Vatahara</i>
S N	<i>Kashaya</i>	<i>Picchila</i>	<i>Sita</i>	-	-
MP N	-	<i>Sara</i>	-	-	<i>Tridosha shamaka</i>
S M	-	-	-	-	<i>Pittaghna</i>
R N	<i>Katu, Tikta, Kashaya</i>	-	<i>Ushna</i>	-	<i>Vatahara</i>
K N	<i>Kashaya, Madhura</i>	-	<i>Sita</i>	<i>Madhura</i>	-
BP N	<i>Tikta Kashaya</i>	-	<i>Sita</i>	-	<i>Tridosha shamaka</i>
N R	<i>Kashaya</i>	<i>Sara</i>	<i>Sita</i>	<i>Madhura</i>	<i>Vatahara</i>
P N	<i>Tikta Kashaya</i>	-	-	-	-

**Table 5: Showing *Karmas* of *Mamsarohini* according to various authors**

<i>Karmas</i>	D N	S N	MP N	R N	K N	BP N	N R	P N
<i>Krimighna</i>	-	-	-	+	-	-	+	-
<i>Swarasaadanuth</i>	+	-	-	+	-	-	-	-
<i>Kanta shuddhikara</i>	-	-	-	+	-	-	+	-
<i>Rochana</i>	-	-	-	+	-	-	-	-
<i>Varnya</i>	+	-	-	+	-	-	-	-
<i>Rasayana</i>	+	-	-	+	-	-	-	-
<i>Vrushya</i>	-	-	+	-	-	+	+	-
<i>Grahi</i>	+	-	-	+	-	-	-	-
<i>Sara</i>	-	-	-	-	-	+	-	-
<i>Vranaropani</i>	-	+	-	-	-	-	-	-
<i>Kshatamamsaankura rohana</i>	-	-	-	-	-	-	-	+
<i>Balya</i>	-	-	-	-	-	-	+	-
<i>Ruchya</i>	-	-	-	-	-	-	+	-

**Table 6: Showing *Rogagnata* of *Mamsarohini* according to various authors**

<i>Rogagnata</i>	D N	S N	MP N	R N	K N	N R
<i>Raktapittahara</i>	+	-	-	+	-	+

<i>Krimighna</i>	-	-	-	+	-	-
<i>Kanta rogahara</i>	+	-	-	+	-	-
<i>Vata rogahara</i>	-	-	-	+	-	+
<i>Sarva rogahara</i>	+	-	-	+	-	-
<i>Vrana ropana</i>	-	+	-	-	-	-
<i>Sarva sangrahani hara</i>	-	-	-	-	+	-
<i>Kasa</i>	-	-	-	-	-	+
<i>Shwasa</i>	-	-	-	-	-	+

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