



Research Article

PREPARATION AND PHYSICO CHEMICAL ANALYSIS OF A HERBOMINERAL REJUVENATIVE FORMULATION- LAKSHMI VILASA RASA

Archana V^{1*}, S Thara Lakshmi²

^{*1}MD Scholar, ²Professor, Dept. of Rasa Sastra and Bhaishajya Kalpana, Government Ayurveda College, Tripunithura, Kerala, India.

Article info

Article History:

Received: 25-11-2021

Revised: 17-12-2021

Accepted: 28-12-2021

KEYWORDS:

Lakshmi vilasa rasa, Rasa Tarangini, Khalviya rasayana, physicochemical analysis.

ABSTRACT

Lakshmi vilasa rasa (LVR) is a Kharaliya preparation mentioned in the Visha upavishadi Vijnaneeya Taranga of Rasa Tarangini indicated for Roga durbala deha, Krsa, Dehapushti, Vahnimandya, Lavanya vardhana etc. It consists of six ingredients namely Shoditha Parada, Shoditha Gandhaka, Loha Bhasma (LB), Shoditha Kupeelu, Shoditha Tankana and Maricha triturated thrice in four Bhavana media. The current study sheds light on the methodology and results of the preparation and analytical study of Lakshmi vilasa rasa. The physico chemical analysis of LVR revealed the following- pH 8.76, Loss on drying 10.94%, Water soluble extractive 38% and Alcohol soluble extractive 0.89%. Weight variation test of Lakshmi vilasa rasa showed that the Gulikas were within the acceptable limit. Particle size analysis (PSA) of LB was 432.69nm.

INTRODUCTION

Ayurveda, a holistic science of medicine practiced and used by Indians for ages, is gaining popularity around the world. Ayurveda emphasizes the importance of healthy lifestyle, proper nutrition, and the use of medicines in the prevention and maintenance of health.

It can be observed in Ayurvedic literature that there are numerous formulations coming under the same name but with varying ingredients and indications. According to *Bharatha Bhaishajya Ratnakara*, an Ayurvedic formulations compilation textbook, there are seven types of *Lakshmi vilasa rasa*. Indications include *Jwara, Rajyakshma, Rasayana, Vajeekarana, Siro roga*, and others. Some of these compositions comprises of *Kajjali, Abhraka, Swarna, Tara, Loha, Tamra, Haritala, Vanga, Mukta*, as well as *Upavishas* like *Vijaya, Dhathura*, and other herbal ingredients. The present work concentrates on one such formulation mentioned in *Vishopavishadi vijnajiya taranga of Rasa Tarangini*.^[1]

The *Rasa* drugs are widely known for their attributes such as rapid effectiveness, a low dosage requirement, and a wide range of therapeutic utility. *Rasa* drugs can be classified into four types in *Rasa Shastra*: *Kupipakwa Rasayana, Parpati Rasayana, Pottali Rasayana, and Khalviya Rasayana*. *Lakshmi vilasa rasa (LVR)* is an Ayurvedic herbo mineral *Khalviya rasayana* mentioned in the *Visha upavishadi Vijnaneeya Taranga of Rasa Tarangini* indicated for *Rogadurbaladeha, Krsa, Ksheenaretas, Dehapushti, Kama virya vardanam, Balya, Vrsya, Vahnimandya nashana, Raktasanchana and Lavanya vardhana*. It consists of six ingredients namely *Shoditha Parada, Shoditha Gandhaka, Loha Bhasma (LB), Shoditha Kupeelu, Shoditha Tankana and Maricha* triturated in four *Bhavana dravyas* namely *Ardraka swarasa, Satavari swarasa, Bhumyamalaki swarasa and Bhrngaraja swarasa*. *Bhavana* is performed three times in each medium before being rolled into *Gulikas of Ratti matra (125mg)*.

MATERIALS AND METHODS

Preparation of Lakshmi vilasa rasa

The herbal raw materials were procured from authentic sources and authenticated by *Dravya guna* expert, while the metal/minerals except *Tankana* were procured from a local laboratory supply store, Thiruvananthapuram. *Tankana* was procured from a local raw medicine store, Thiruvananthapuram and was certified by *Rasa Shastra* expert. The composition

Access this article online

Quick Response Code



<https://doi.org/10.47070/ijapr.v9i12.2172>

Published by Mahadev Publications (Regd.)
publication licensed under a Creative
Commons Attribution-NonCommercial-
ShareAlike 4.0 International (CC BY-NC-SA
4.0)

of *Lakshmi Vilas Rasa* is provided in the Table 1. The process involved following stages viz. purification of *Parada*, purification of *Gandhaka*, preparation of *Kajjali*, preparation of *Loha Bhasma*, purification of

Tankana, purification of *Kupeelu bija*, preparation of *Maricha churna*, preparation of *Ardraka*, *Satavari*, *Bhumyamalaki* and *Bhrngaraja swarasas*, *Bhavana* (levigation) with above mentioned *Swarasas*.

Table 1: Composition and Proportion of each Ingredient of LVR

Ingredients	Scientific/Botanical name	Part/Form used	Proportion in text
<i>Kupeelu</i>	<i>Strychnosnux-vomica</i> Linn	<i>Shoditha</i> (Purified) seeds	6
<i>Tankana</i>	Borax	<i>Shoditha</i> (Purified) powder	6
<i>Maricha</i>	<i>Piper nigrum</i> Linn	Fruit powder	6
<i>Loha</i>	Ferric oxide	<i>Bhasma</i> /Incinerated iron	4
<i>Gandhaka</i>	Sulphur	<i>Shoditha</i> (Purified) Sulphur	2
<i>Parada</i>	Hydrargyrum	<i>Shoditha</i> (Purified) Mercury	1
<i>Ardraka</i>	<i>Zingiber officianale</i>	<i>Swarasa</i> / Fresh juice extract	---
<i>Satavari</i>	<i>Asparagus racemosus</i>	<i>Swarasa</i> / Fresh juice extract	---
<i>Bhumyamalaki</i>	<i>Phyllanthus niruri</i>	<i>Swarasa</i> / Fresh juice extract	---
<i>Bhrngaraja</i>	<i>Eclipta alba</i>	<i>Swarasa</i> / Fresh juice extract	---

Purification of *Parada* [2]

Shodhana or purification of 200g of *Parada* was done by levigation in 3 media- *Kumari swarasa*, *Chitraka kashaya* and *Kakamachi swarasa* in a *Khalwa yantra* (mortar and pestle). *Chitraka shodhana* was carried out in *Churnodaka* prior to the preparation of *Kashaya*. [3]

Table 2: *Parada Shodhana*

<i>Shodhana</i> medium	Quantity of Drava used	Duration of <i>Bhavana</i>	Change in weight (in gm)	Loss of weight (in gm)
<i>Kumari swarasa</i>	200ml	8 hrs	196.68	3.32(1.66%)
<i>Chitraka kashaya</i>	150ml	8 hrs	196.56	0.21(0.1%)
<i>Kakamachi swarasa</i>	200ml	8 hrs	191.86	4.7(2.39%)

Purification of *Gandhaka* [4]

Gandhaka shodhana was done as per *Kurmaputa* method. 3L Cow's milk was taken in an earthen pot of 5L capacity smeared with ghee and covered with a cotton fabric. Using a spoon, 500gm fine *Gandhaka* powder was gently placed on the fabric. It was then wrapped three times in mud-smeared cloth and closed with an appropriately sized *Sharava* (earthen lid). The entire equipment was set in a ground trench and covered with 48 pieces of coconut husk. The husk was ignited and the temperature range as well as the peak temperature reached (492°C) was recorded. The mud covers and *Sharava* were removed after attaining *Swangaseetha* (self-cooling), and the milk was drained to obtain *Gandhaka* globules. To eliminate the milk fat, it was rinsed thoroughly with warm water. *Shodhitha Gandhaka* was then shade dried, pulverised, and sieved through sieve no. 120.

Table 3: *Gandhaka shodhana*

<i>Gandhaka</i> before <i>Shodhana</i>	500g
<i>Gandhaka</i> after <i>Shodhana</i>	468g (93.6%)
Loss of weight	32g (6.4%)

Preparation of *Kajjali*

In a mortar, one-part *Shoditha parada* was placed, and two parts *Gandhaka* was added gradually. *Mardana* (grinding) was carried out until *Kajjali siddha lakshanas* were achieved.

Table 4: Observation during grinding of *Kajjali*

Quantity of Sh. <i>Parada</i>	26.8gm
Quantity of Sh. <i>Gandhaka</i>	53.6gm
No. of hours taken for grinding	58
Weight of <i>Kajjali</i> obtained	62gm (77.11%)
Loss of weight	18.4gm (22.88%)

Table 5: Kajjali Siddha Lakshanas

Features	Time taken
<i>Krishna varna</i>	5hr
<i>Rekhapurna</i>	8hr
<i>Varitaratwa</i>	15hr
<i>Nischandratwa</i>	52hr

**Fig No 1. Kajjali Preparation****Preparation of Loha Bhasma**

Samanya and *Vishesha shodhana* are the two steps in *Loha shodhana*.^[5,6] *Samanya shodhana* of 1kg *Loha* was carried out by *Nirvapa* (quenching) in five media- *Taila*, *Takra*^[7], *Go Mutra*, *Aranala*^[8] and *Kulatha kashaya*.^[9] *Shoditha Loha* was subjected to *Nirvapa* in *Triphala kashaya* seven times during *Vishesha shodhana*. *Loha marana* (incineration) comprised of three phases: *Bhanupaka*, *Sthalipaka* and *Putapaka*.^[10]

The procedure is referred to as *Bhanupaka* since the *paka* phase occurs in the presence of sunlight. *Shoditha Loha* was submerged in trays of *Triphala kashaya* and dried in the sun. The day after, freshly produced *kashaya* was used, and the process was repeated seven times in total. *Loha* was rinsed and dried after *Bhanupaka*.

Loha was subjected to *Sthalipaka* after *Bhanupaka*. Since the *Paka* occurs in a *Sthali* or *Kadai*, this procedure is referred to as *Sthalipaka*. *Loha* was taken in an iron *Kadai* and heated. *Triphala kashaya* was introduced to this and heated until all of the *Kashaya* boiled, reduced, and eventually dried. This process was carried out seven times.

Table 6: Loha Samanya and vishesha shodhana

Name of medium	Quantity of medium	Quantity of medium for each Nirvapa	Weight of Loha before Shodhana (gm)	Weight of Loha after Shodhana (gm)	Colour of Loha
<i>Taila</i>	7L	1L	1000	1114	Black
<i>Takra</i>	7L	1L	1114	1011	Black with some red aggregates
<i>Go mutra</i>	7L	1L	1011	998.5	Reddish black
<i>Aranala</i>	7L	1L	998.5	993.5	Brownish black
<i>Kulatha kashaya</i>	7L	1L	993.5	984	Dull black
<i>Triphala kashaya</i>	7L	1L	984	979	Black

Table 7: Loha Bhanupaka and Sthalipaka

Name of procedure	Name of medium	Quantity of medium for each process	Quantity of medium in total	Weight of loha before (gm)	Weight of loha after (gm)	Colour of loha
<i>Bhanupaka</i>	<i>Triphala kashaya</i>	490ml	3.43 L	979 g	1206g	Black
<i>Sthalipaka</i>	<i>Triphala kashaya</i>	1.03L	7.2 L	1206g	1572g	Black

After *Sthalipaka*, the *Loha bhavana* was done in *Triphala kashaya* until *Samyak bhavita lakshanas* were obtained. *Loha* was then shaped into *Chakrikas* (pellets), dried, and placed on appropriately sized *Sharava*,

followed by wrapping 7 times in mud smeared cloth (*Sandhi bandhana*). The *Sharava* was placed in an electric muffle furnace and heated to 700°C for one hour. After the *Sharava* cooled down, the *Sandhi bandhana* was removed, the *Bhasma* was collected and the entire process was repeated. Temperature was increased to 800°C for *Putra* 6,7,8,9 and maintained for 1 hour until ideal *Bhasma lakshanas* were obtained.

Graph 1. *Loha marana* in EMF at 700 °C

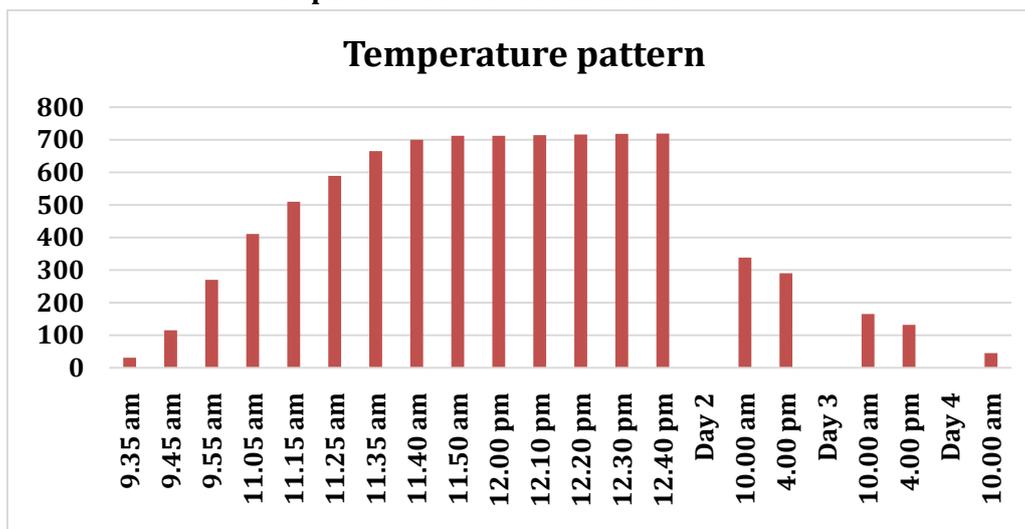


Table 8: *Loha marana*

Putra No	Initial weight in gm	Amount of <i>Triphala kashaya</i> in ml	Weight before <i>Putra</i> in gm	Weight after <i>Putra</i> in gm	Change in weight in gm
1	625	200	577.5	420	157
2	420	200	450	400	50
3	400	150	413	385.5	27.5
4	385.5	140	397.5	377.5	20
5	377.5	110	392.5	381	11.5
6	381	100	381	372.5	8.5
7	372.5	130	405.5	378.5	27
8	378.5	120	394.5	377	17.5
9	377	150	410	378	32

Table 9: *Bhasma pareeksha* of *Loha Bhasma*

<i>Varna</i>	<i>Pakva jambu</i>
<i>Varitaratwa</i>	Present
<i>Rekhapurnatva</i>	Present



Fig 2. *Loha marana*

Purification of Tankana [11]

500g *Tankana* was finely ground using a *Khalwa yantra*, then placed in a bronze vessel and heated till it lost its water content and became light and fluffy. 286gm *Shoditha tankana* was obtained.

Purification of Kupeelu bija [12]

Shodhana of 500g *Kupeelu* was performed in *Dola yantra* with milk for one *Yama* (3 hours). Following *Shodhana*, *Kupeelu* became soft and flexible, having a rubbery texture. It was rinsed in hot water immediately after *Shodhana* and the skin was peeled. Later, it was split in half to extract the cotyledon inside. This was fried in a bronze vessel with small amount of ghee until the *Kupeelu* turned brown and brittle. After cooling, it was ground using a pulverizer, sieved, and weighed.

Preparation of Maricha churna

Maricha was obtained from a reliable source and authenticated. 240g *Maricha* was pulverized, and 185g was obtained after sieving.

Preparation of Bhavana Swarasas

Before extracting *Swarasa*, *Ardraka* was cleaned, peeled, and diced in batches. The extraction of *Satavari moola swarasa* involved peeling the outer skin, removing the internal vein, slicing into smaller pieces, and grinding. *Swarasa* was extracted from *Bhumyamalaki* and *Bhrngaraja* after thorough washing and chopping. To avoid deterioration, the *Swarasas* were extracted a day prior to the *Bhavana* and preserved in the freezer.

Preparation of final drug

Lakshmi vilasa rasa is a formulation containing 6 ingredients and *Bhavana* in 4 mediums 3 times each.

Table 10: Ingredients and its quantity taken of Lakshmi Vilasa Rasa

Drug	Ratio as per reference	Quantity
<i>Kajjali</i> (Hg: S = 1:2)	3 Tola	62gm
<i>Loha bhasma</i>	4 Tola	83gm
<i>Maricha churna</i>	6 Tola	124gm
<i>Shudha Tankana churna</i>	6 Tola	124gm
<i>Shudha Kupeelu churna</i>	6 Tola	124gm
<i>Ardraka swarasa</i>	-----	1350ml
<i>Satavari swarasa</i>	-----	1595ml
<i>Bhumyamalaki swarasa</i>	-----	1750ml
<i>Bhrngaraja swarasa</i>	-----	1300ml

Table 11: Bhavana dravyas of Lakshmi vilasa rasa

<i>Bhavana</i> medium	Weight of drug before <i>Bhavana</i>	Weight of drug after <i>Bhavana</i>
<i>Ardraka swarasa</i>	517gm	893.5 gm
<i>Satavari swarasa,</i>	893.5 gm	836gm
<i>Bhumyamalaki swarasa</i>	836gm	903 gm
<i>Bhrngaraja swarasa.</i>	903 gm	1198gm

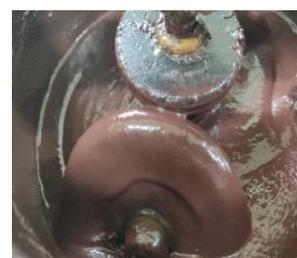




Fig 3. Preparation of Lakshmi Vilasa Rasa

RESULTS

Analytical Study of *Lakshmi vilasa rasa* involved 3 steps

- a. Organoleptic Characteristics
- b. Physico-Chemical analysis
- c. Instrumental analysis

Organoleptic characters of *Lakshmi vilasa rasa*

Table 12: Organoleptic features of Lakshmi vilasa rasa

Colour	Maroon
Taste	Tikta, Katu
Touch	Smooth, fine
Smell	Characteristic

Physico chemical analysis of *Lakshmi vilasa rasa*

Table 13: Physico chemical analysis of Lakshmi vilasa rasa

Parameters	<i>Lakshmi vilasa rasa</i>
pH	8.76
Loss on drying	10.94%
Water soluble extractive	38%
Alcohol soluble extractive	0.89%

Weight variation test^[13]

Weight Variation of *Lakshmi vilasa rasa* was calculated by

$$\text{Weight Variation} = (IW - AW) / AW \times 100\%$$

IW: Individual weight, AW: Average weight

The average weight of 20 *Gulikas* were 0.1225

Table 14: Weight variation of Lakshmi Vilasa Rasa

Individual weight (g)	% Deviation	Individual weight (g)	% Deviation
0.118	3.67	0.123	4
0.127	0.4	0.129	5.30
0.123	0.4	0.116	5.30
0.128	4.4	0.133	8.5
0.118	3.67	0.13	6.1
0.120	2.04	0.125	2.04
0.13	6.1	0.116	5.30
0.117	4.48	0.118	3.67
0.115	6.1	0.118	3.67
0.128	4.4	0.116	5.30

Only one individual weight deviated from 7.5% but it didn't deviate by more than twice the acceptable percentage (15%)

Determination of Particle Size Analysis (PSA)

The PSA of *Loha bhasma* was conducted at Council of Scientific and Industrial Research-National Institute for Interdisciplinary Science and Technology (CSIR-NIIST). Industrial estate. Pappanamcode. Thiruvananthapuram. Hydrodynamic diameter of final *puta* of *Loha (puta 9)* was 432.6969877 nm.

DISCUSSION

The present study drug *Lakshmi vilasa rasa* is a *Rasa Tarangini* formulation referenced in the *Visha upavishadi vijnaneeya taranga. Shudha Parada, Shudha gandhaka, Loha bhasma, Shudha Kupeelu churna, Shudha tankana, and Maricha churna* are its ingredients. There are no accessible data regarding the preparation and analytical study of this formulation, hence the current study was carried out to bridge this knowledge gap.

The first step in the preparation of *Lakshmi Vilasa rasa* was *Shodhana* of *Parada*. 200gm *Parada* was levigated for 8 hours in *Kumari swarasa, Chitraka kashaya, and Kakamachi swarasa*, yielding a final weight of 191.86g. Since washing *Parada* after *Bhavana* with *Kakamachi swarasa* was difficult due to its sticky and slimy nature, the loss was primarily on the last *Bhavana* (2.39 %). The *Kurmaputa* method was used for *Gandhaka shodhana*. The entire process took about 5 hours, and the end result was *Gandhaka* globules weighing 468g after washing, drying, and powdering. *Kajjali* was prepared from the *Parada* and *Gandhaka* obtained after *Shodhana*. It was done in accordance to the ratio mentioned in the formulation: 1:2.

Loha bhasma preparation comprises of *Shodhana* and *Marana* of *Loha*. After *Samanya* and *Vishesha shodhana* it was observed that the initial 1kg *Loha* was reduced to 979g. During *Loha marana*, the hardness of the *Chakrikas* increased after the fourth *puta* and the color became slightly purple. Since the classical *Bhasma lakshanas* such as *Varitaratwa* and *Rekhapurnatwa* were not obtained, the temperature was raised to 800°C for *Putra 6,7,8,9* and maintained for 1 hour. The color of *Loha bhasma* reached the target of *Pakwajambu phala varna* by the end of the 9th *Putra*. It also attained *Varitaratwa* and *Rekhapurnatwa*.

Tankana shodhana of 500gm *Tankana* was done in 5 batches of 100gm each. The entire process took approximately 16 hours. The absence of hissing sound, which could be indicative of loss of water of crystallization and fine *Tankana* particles escaping the vessel, was used to determine the endpoint. The weight loss was significant, as the final weight reached was 286gm, a 40% drop.

500g *Kupeelu shodhana* was performed in *Dola yantra* with milk, as specified in *Rasa Tarangini*. A study on the effect of cow's milk for *Shodhana* of *Kupeelu* discovered that *Shodhana* in *Go ksheera*

lowered the toxicity of its strychnine and brucine contents.^[14] *Shodhana* took 1 *Yama* (3 hours) and used 8.5L of milk. Weight of *Kupeelu* decreased by 46.5 percent after *Shodhana*.

An increase in weight can be noted following *Bhavana* in *Ardraka swarasas* during the manufacture of the final drug, which could be influenced by the presence of starch content in *Ardraka*. When the drug reached a semi-solid consistency, it had to be removed from the grinder as grinding was no longer feasible. The drug was then shade dried and weighed before proceeding to the *Bhavana* in the next medium. *Gulikas* weighing 125mg were made. As a weight decrease was detected after shade drying, it was initially weighed at around 140 to 150mg. The *Gulikas* were maroon in colour, with *Tikta katu rasa* and a distinct smell.

The physicochemical factors can be used to assess the purity and quality of a drug. In the current study, pH, loss on drying, water soluble extractive value, and alcohol soluble extractive value for LVR were determined. The loss on drying value of *Lakshmi vilasa rasa* was 10.94%. It can be assumed that the increased loss on drying in preparations containing mercury and sulphur might be due to the sublimation of the same and not due to moisture content of the drug. The water-soluble and alcohol-soluble extractive values reflect the quantity of active ingredient in a given amount of plant material when extracted with corresponding solvents. Water soluble extractive value of *Lakshmi vilasa rasa* was 38% and alcohol soluble extractive value was 0.89%. *Lakshmi vilasa rasa* had a pH of 8.76. The basic pH of the *gulika* might be due to the presence of *Shoditha Tankana* as observed in a similar study.^[15] Hydrodynamic diameter of LB was 432.69 nm, according to PSA carried out at CSIR Pappanamcode which is well within the acceptable limit.

CONCLUSION

Lakshmi vilasa rasa mentioned in *Rasa Tarangini*, is a *Yoga* that, according to its constituents, has the capacity to be exceedingly potent as a *Rasayana* but has surprisingly remained unexplored. The preparation of *Lakshmi vilasa rasa* was in accordance with traditional pharmaceutical processes. The standards established in this study can undoubtedly be used as a valuable tool for standardization and quality assurance of this herbomineral composition.

REFERENCES

1. Shastri K. Rasatarangini of Sadananda Sharma. 8th ed. New Delhi: Motilal Banarasidas Publication; 2014; pg no 686 -687.
2. Suresh P, Dhannapuneni V. Rasendra Sara Sangrah of Sri Gopala Krishna Bhatt. 2nd ed. Varanasi: Chaukhamha Sanskrit Sansthan; 2012. pg no.13.

3. Shastri K. Rasatarangini of Sadananda Sharma. 8th ed. New Delhi: Motilal Banarasidas Publication; 2014; pg no 753.
4. Sri Gulraj Sharma Misra. Ayurveda Prakasha. Varanasi; Chaukhamba; 2009. pg no 261.
5. Satpute AD. Rasaratna samucchaya. New Delhi; chaukhamba Sanskrit prathishtan; 2010. pg no 110.
6. Sharma Sadananda. Rasa Tarangini. Edited By Pandit Kashinath Shastri. 8th Edition. Motilal Banarasidas Publication; New Delhi; pg no 464.
7. Sri Gangasahay Pandey. Bhava Prakasha Nighantu of Bhava mishra. Chaukhamba Bharati Academy, Varanasi; 2013; 755.
8. Sitaram Bulusu. Bhavaprakasha of Bhavamishra Vol 1; Varanasi: Chaukhamba Orientalia, 2012; pg no 546.
9. Murthy H. Sarangadhara samhita of Sarangadhara; Varanasi: Chowkhamba sanskrit series office; 2010.; pg no 111.
10. Shastri K. Rasatarangini of Sadananda Sharma. 8th ed. New Delhi: Motilal Banarasidas Publication; 2014; pg no 496-500.
11. Shastri K. Rasatarangini of Sadananda Sharma. 8th ed. New Delhi: Motilal Banarasidas Publication; 2014; pg no 318.
12. Shastri K. Rasatarangini of Sadananda Sharma. 8th ed. New Delhi: Motilal Banarasidas Publication; 2014; pg no 679.
13. Anonymous, The Ayurvedic Pharmacopoeia of India (API) (Ministry of Health and Family Welfare, Govt. of India, New Delhi) Part 2, Vol.4; The Controller of Publications, New Delhi, 2001; pg no 152.
14. Acharya R, Mitra S, Shukla V. Effect of Shodhana (processing) on Kupeelu (Strychnos nux-vomica Linn.) with special reference to strychnine and brucine content. AYU (An International Quarterly Journal of Research in Ayurveda). 2011; 32(3):402.
15. Abhishek A, BN A, K. S, Kumar S. Analytical evaluation of Mrityunjaya Rasa. Journal of Ayurveda and Integrated Medical Sciences (JAIMS). 2017; 2(06).

***Address for correspondence**

Dr. Archana V

M.D Scholar,
Dept. of Rasa Sastra and
Bhaishajya Kalpana,
Government Ayurveda College,
Thiruvananthapuram, Kerala,
India.
Email: drarchanav11@gmail.com

Cite this article as:

Archana V, S Thara Lakshmi. Preparation And Physico Chemical Analysis of A Herbomineral Rejuvenative Formulation- Lakshmi Vilasa Rasa. International Journal of Ayurveda and Pharma Research. 2021;9(12):11-18.

<https://doi.org/10.47070/ijapr.v9i12.2172>

Source of support: Nil, Conflict of interest: None Declared

Disclaimer: IJAPR is solely owned by Mahadev Publications - dedicated to publish quality research, while every effort has been taken to verify the accuracy of the content published in our Journal. IJAPR cannot accept any responsibility or liability for the articles content which are published. The views expressed in articles by our contributing authors are not necessarily those of IJAPR editor or editorial board members.