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Shalparni (*Desmodium Gangeticum*) – A Review from Pharmacological Perspective

Pramila kumari¹ , Mohd Imtiyaj², Masum³, Vijaya⁴

1. P.G. Scholar Dept. of Dravyaguna MMM Govt. Ayurveda College, Udaipur (RAJ)
2. P.G. Scholar Dept. of Dravyaguna MMM Govt. Ayurveda College, Udaipur (RAJ)
3. P. G. Scholar Dept. of Physiology . MMM Govt. Ayurveda College, Udaipur (RAJ)
4. P.G. Scholar Dept. of Dravyaguna MMM Govt. Ayurveda College, Udaipur (RAJ)

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Corresponding author-

Pramila kumari, PG Scholar,
Department of Dravyaguna, MMM
Govt. Ayurveda College, Udaipur
(RAJ),

Email:

pramilajhaharia1992@gmail.com.

ABSTRACT:

Shalparni is a well-known plant in *Ayurveda* literature. The botanical name of *Shalparni* is *Desmodium gangeticum* DC., and belongs to the family Fabaceae. *Shalparni* is one of the constituent drug of *Laghu panchmool* and *Dashmoola*. Due to its *madhura – tikta rasa* and *madhuravipaka* it alleviates vitiated *vaat* and *rakta dusthi*, so it is indicated efficiently in *vaatrakta chikitsa*. In *Charaka samhita* it is classified in *sothhara mahakashya* and in *Sushruta* it is classified in *Vidarigandhadi gana* and *laghupanchamula*. *Desmodidium gangeticum* has many ethnomedical uses. In various *nighantus*, it is also indicated in *Atisara*, *Shosha*, *Shopha*, *Jwara*, *Visha*, *Krimi rogas*. *Shalparni* possesses aphrodisiac, cardiogenic, nervine tonic, febrifuge, haemostatic, and anti-helminthic properties. *Shalparni* also has anti-inflammatory, analgesic, antibacterial, anticholinesterase, smooth muscle relaxant, antipyretic, CNS stimulant and depressor, and bronchial muscle relaxant properties.

Key words – *Shalparni*, *RasPanchak*, *Dosha*, *Dhatu*

INTRODUCTION

Around the world almost 20,000 plants are used for medicinal purposes, out of which approximately 10,000 plants are used in Indian medicinal system. *Shalparni* is a well-known plant in *Ayurveda* literature. It is found throughout India. *Shalparni* is one of the constituent drug of *Laghupanchmool* and *Dashmoola*. *Shalparni* and *Prashniparni* are together termed as *Parnidwaya* in classical *Ayurvedic* literature. The botanical name of *Shalparni* is *Desmodium gangeticum* DC., and belongs to

the family Fabaceae.

Shalparni is a short herb or undershrub which attains a height of 0.5 to 1 meter. The stem is hairy or less hairy. Leaf is unifoliate, leaflets are oval, oblongue and rounded at the base. The calyx is 2 mm long and hairy and the fruit is pod shaped. Flowering takes place usually in the month of June – august¹.

49 species of *desmodium* are found in India viz. *Desmodium triflorum* DC., *Desmodium Laxiflorum*,



Desmodium natalitium Sonder., *Desmodium maculatum* L.(DC). etc.

Distribution² –

Various species of *Desmodium* are found on lower hills & plains upto 1500 meters in Himalayas. It is very commonly seen in Punjab, Bihar, Rajasthan open and wet land forest and western ghats.

AIMS AND OBJECTIVES

1. To study the *Shalparni* with respect to its synonyms, *rasapanchak* from the classical text of *Ayurveda*.
2. To identify various uses of *Shalparni* in *Samhitakala* and modern era.

Classical Categorization Table 1

Vernacular Names – Table 2

Synonyms in different *Nighantu* – Table 3

Synonyms of *Shalparni* in different *Nighantus* are given below³⁻¹⁰.

Raspanchak - Table 4

Rogagnata – Table 5

Effect on *Dosha*, *Dhatu* and *Mala*: Table 6

Effect on *Dosha* –

Effect on *Dhatu*/ *Updhatu*/ *Agni* –

Due to the properties of *Madhur-Tikta rasa*, *Guru-Snigdha Guna*, and *Ushna veerya*, *Agni* is directly increased while *Dhatu* and *Updhatu* are gradually increased. It is also referred as *Rasayan* and *Bringhan* by several *Nighantus*.

Effect on *Mala* –

Madhur-Tikta Rasa, and *Madhur Vipaka* are present in *Shalparni*. Due to *Madhuravipaka* it acts as *Shrustavinamutra*.

Part used – Root, whole plant

Chemical constituents¹⁶ –

N, N-dimethyltryptamine, N-dimethyltryptamine, 5-methoxy-N, and their Nb-oxides, Nb-methyltetrahydroharman, N-methyl tyramine, 6-methoxy-2-methyl-β-carbolinium derivative, Nb-methyltetrahydroharman, hypaphorine, hordenine, caudicine, β-phenylethylamine, gangetin-(7, 12α-dihydro-13-methoxy-3, 3-dimethyl-11-13-methyl-2butenyl) -3H, 7H-benzofuro [3,2-C] pyrano [3,2-g] - benzopyran-10-ol, gangetinin, desmodin, 24-ethylcholesta-5, 22-dien-3β-ol.

Description in various floras and reference books –

The Wealth of India¹⁷ –

This book (vol-iii) has a detailed description of the plant's

cultivation. This plant's therapeutic benefits and chemical constants have also been revealed. Many species are mentioned in the *Desmodium* genus, such as *trifloram*, *gengeticum*, and *diffusum*.

Indian Medicinal Plants (*Kirtikar and Basu*)¹⁸ –

The family- Leguminose, the genus- *Desmodium*, and species- *gengeticum* and morphology of the plant, as well as its uses and therapeutic applications, have all been thoroughly characterised.

The Ayurvedic Pharmacopia of India (Vol 3)¹⁹ –

This book covers the following topics: vernacular names, morphology, pharmacognosy, powder microscopy, chemical components, properties and action, therapeutic uses, and dosing.

DISCUSSION & CONCLUSION

Shalparni is mentioned extensively in the text of *Ayurveda*. Mainly it is used as a component in *dashmool*, however single uses are also stated at some places in the texts like in *Ardhavybedak*, *baalroga*, *netraroga*, etc. *Acharya Charak* indicates its use with milk in *hrudashool*, particularly in *vataj hrudashoola*²⁰. Due to its *madhura – tikta rasa* and *madhuravipaka* it alleviates vitiated *vaat* and *rakta dusthi*, so it is indicated efficiently in *vaatrakta chikitsa*. In various *nighantus*, it is also indicated in *Atisara*, *Shosha*, *Shopha*, *Jwara*, *Visha*, *Krimi rogas*. Though root is the commonly used part, leaves and the whole plant are also used in some formulations. Various tribal communities of India use it to treat whooping cough, bone fractures, as an antidote of scorpion sting, and to cure snake bites.

Shalparni possesses aphrodisiac, cardiogenic, nervine tonic, febrifuge, haemostatic, and anti-helminthic properties. It has also been found useful in flatulence, diarrhoea, dysentery, neuro-muscular disorder, tuberculosis, seminal weakness, and gout conditions. The root of *Shalparni* is a well-known antipyretic. Its efficacy has also been proved in typhoid fever, as a diuretic and aphrodisiac.

The established pharmacological activities of *Shalparni* include anti-inflammatory, analgesic, antibacterial, antidiabetic, antiulcer, anticholinesterase, smooth muscle relaxant, antipyretic, CNS stimulant and depressor, and bronchial muscle relaxant²¹⁻²². The aqueous extract of root was found to be harmless in acute toxicity studies. In experiments conducted on mice, a pterocarpene derivative gangetin which was derived from hexane extract of root was found to be non-toxic up to a dose of 7 gm/kg.

ORCID

Pramila kumari , <https://orcid.org/0000-0003-4682-1966>

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REFERENCES

1. Database on medicinal plants used in Ayurveda and Siddha (2007), Vol. 8, Central Council for Reserch in Ayurveda & Siddha.
2. Database on medicinal plants used in Ayurveda and Siddha (2007), Vol. 8, Central Council for Reserch in Ayurveda & Siddha.
3. Oza Z Dhanvantari Nighantu, Hindi Gunakarmatmaka commentary Chaukhamba Prakashan, Varanasi.1986
4. Sharma PV, Sodhala Nighantu 1st edition, edited by Prof. P.V. Sharma, Oriental Institute, Baroda. 1978
5. Sharma PV, Abhidhana Ratnamala (Shadrasa Nighantu), 1st edition, 6th skandha, editor Chaukhambha Orientalia, Varanasi. 1978
6. Sharma PV Madhava Dravya guna (Bhavaswabhava vada), 1st edition, Chowkhamba Vidyabhawan, Varanasi. 1973
7. Sharma PV Hridaya dipaka Nighantu and Siddhamantra, with the commentary of Bopadeva, Chaukhamba Amarbharati Prakashan, Varanasi. 1978
8. Khemraj S, Madanpal Nighntu, Hindi Commentary Bhashatatva prkashini Mumbai.2006
9. Sharma PV Kaiyadeva, Kaiyadeva Nighantu, Ed. 1st, Chaukhambha Orientalia, Varanasi, 1979;12.
10. Chunekar, KC, Bhavaprakasha Nighantu, Chaukhambha Bharati Academy, Varanasi. 2007
11. Tripathi I Raja Nighantu, Hindi Commetary Dravyaguna Chaukhambha Krishnadas Academy, Varanasi. 2006
12. Lal Bhai T, Nighantu Shesha 1st edi, Shri Vallabhadani's Commentary, Bharatiya Sanskrit Vidyamandira, Ahmedabad. 1968
13. Sharma P.V., Priya Nighantu with Hindi commentary 'Padma', Chaukhambha Surabharati Prakashan, Varanasi, 2004;11.
14. Shaligrama V , Shaligrama Nighantu, Khemaraj Srikrishna Das, Bombay, 1993;206.
15. Jayatilak J.P., Saraswati Nighantu, edited by Dr. S.D.Kamat, Ed. 1st, Chaukhamba Sanskrit Pratishthan, Delhi, 2006;58.
16. Database on medicinal plants used in Ayurveda and Siddha (2007), Vol. 8, Central Council for Reserch in Ayurveda & Siddha.
17. The wealth of India, Council of scientific and Industrial Reseach, New Delhi. Vol. III.
18. Kirtikar KR Indian medicinal plants – Volume 1, Ed. 2nd, Bishen Singh Mahendra Pal Singh, 2004.
19. The Ayurvedic Pharmacopoeia of India, 1st edition, Govt. of India, Ministry of Health and Family Welfare, Department of Indian Systems of Medicine & Homeopathy, New Delhi. Part – I, Vol-III.
20. Acharya YT, Agnivesha, Charaka Samhita with 'Ayurveda-Deepika' Commentary of Chakrapanidatta, edited by Chaukhamba Surbharati Prakashan, Varanasi, reprint edition, 2007.
21. S. Suman, P. Neha and P. Bhupesh, “A review on Shalparni (*desmodium gangeticum* DC. & *Desmodium laxiflorum* DC.) Ethnomedicinal perspectives,” Journal of Medicinal Plants Studies, vol. 3, no. 4, 2015.
22. R. Govindrajan, H. Asare-Anane, S. Persaud, P. Jones and P. Houghton, “Effect of *Desmodium gangeticum* extract on blood glucose in rats and on insulin secretion in vitro,” *Planta Medica*, vol. 73, no. 5, 2007.
23. Suman Girjianandan singh , Neha permar , Bhupesh R Patel,; “A review on Shalparni (*Desmodium gangeticum*) and *Desmodium species (Desmodium trifolium) & Desmodium laxiflorum* –Ethnomedicinal perspectives.

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Table 1 Classical Categorization

Sr. no.	GRANTHA	VARGA / GANA
1.	<i>Charaka Samhita</i>	<i>Shothahara dashemani, Balya dashemani, Snehopagadashemani, Angamardaprashmana dashemani, Madhuraskandhas</i>
2.	<i>Sushruta Samhita</i>	<i>Vidarigandhadi gana, Laghupanchmool.</i>
3.	<i>Astanga samgraha</i>	<i>Vayasthapan gana,</i>
4.	<i>Dhanvatari Nighantu</i>	<i>Guduchyadi varga</i>
5.	<i>Sodhala Nighantu</i>	<i>Guduchyadi varga</i>
6.	<i>Madhava Dravyaguna</i>	<i>Vividhaushadhi varga</i>
7.	<i>Hridayadipaka Nighantu</i>	<i>Chatushpada varga</i>
8.	<i>Madanpal Nighantu</i>	<i>Abhayadi varga</i>
9.	<i>Kaidev Nighantu</i>	<i>Aushadhi varga</i>
10.	<i>Bhavaprakasha Nighantu</i>	<i>Guduchyadi varga</i>
11.	<i>Raja Nighantu</i>	<i>Shatahyadi varga</i>
12.	<i>Rajavallabh Nighantu</i>	<i>Shatahyadi varga</i>
13.	<i>Shaligrama Nighantu</i>	<i>Guduchyadi varga</i>
14.	<i>Priya Nighantu</i>	<i>Haritakyadi varga</i>

Table 2 Vernacular Names –

S. No.	Language	Names
1.	English	<i>Flax weed, flix weed</i>
2.	Hindi	<i>Shalpan, Sarivan, Salvan, sar, Gauri, Salpani, Dinth</i>
3.	Bengali	<i>salpani, shalpani, chhalani</i>
4.	Gujarati	<i>shalvan, salvan, sameravo, pandadiyo</i>
5.	Marathi	<i>Ranbhal, Salvan</i>
6.	Oriya	<i>Sharpni, Salopornni</i>
7.	Punjabi	<i>Samer, Shalpurni, Sarivan</i>
8.	Sanskrit	<i>Shalparni, shaliparni, Vidharigandha, Somya, Anshumati, Atiguha, Triparni, Dhruva, Dirghmoola, Sthira, Pitini, Patrika, Tanvi, Kumuda, Dirghpatrika, Shophaghni, Tripatri, Triguha, Guha, Parniti, Madhuparnika, Dirghaghni, Suparnika, Dirghmoolika, Vataghni, Subhaga, Devi, Niswala, Vrihiparnika, Sumoola, Suroopa, sarvanukarini, pitani, supatra, shubhapatrika, shulidala, anyaparni, sudala.</i>
9.	Tamil	<i>Pulladi, Pullati, Orila</i>
10.	Telugu	<i>Gitanaram, Kolaka ponna</i>
11.	Urdu	<i>Sharpni.</i>

Table 3 Synonyms in different Nighantu –

Synonyms of *Shalparni* in different *Nighantus* are given below³⁻¹⁰.

Sr.No.	<i>Paryaya</i>	<i>DN</i>	<i>SoN</i>	<i>AbR</i>	<i>MD</i>	<i>HDN</i>	<i>MN</i>	<i>KN</i>	<i>BP</i>
1.	<i>Shaliparni</i>	+	+	+		+	+	+	+
2.	<i>Sthira</i>	+	+	+	+		+	+	+
3.	<i>Somya</i>	+	+	+			+	+	+
4.	<i>Triparni</i>	+	+						+
5.	<i>Atiguha</i>	+	+				+	+	
6.	<i>Dhruva</i>	+	+	+				+	
7.	<i>Vidarigandha</i>	+	+	+			+	+	+
8.	<i>Anshumati</i>	+	+	+			+	+	+
9.	<i>Dirghmoola</i>	+	+				+		
10.	<i>Patrika</i>	+							
11.	<i>Pitini</i>		+				+	+	
12.	<i>Kumuda</i>		+						
13.	<i>Tanvi</i>		+						
14.	<i>Shophagni</i>		+						
15.	<i>Dirghapatrika</i>		+						
16.	<i>Guha</i>		+						+
17.	<i>Tripatri</i>			+				+	
18.	<i>Triguha</i>			+					
19.	<i>Mahaklitanika</i>			+				+	
20.	<i>Anshuparnika</i>							+	
21.	<i>Parniti</i>							+	
22.	<i>Parni</i>							+	
23.	<i>Dirdhmoolika</i>							+	
24.	<i>Pivri</i>								+
25.	<i>Dirghangi</i>								+
26.	<i>Dirghapatra</i>								+
27.	<i>Dirdhaguhya</i>								
28.	<i>Atiguha</i>					+			
29.	<i>Anyaparnya</i>					+			
30.	<i>Sudala</i>	+							
31.	<i>Dirghapatrika</i>	+							
32.	<i>Dirghapatra</i>				+				
33.	<i>Dirghamoola</i>		+	+		+			

Table 4 Raspanchak -

Raspanchak according to different nighantus are as follow –

Sr. No.	Rasapanchaka	DN	MD	SMP	HDN	MN	KN	BP	RN	Sha.N
1.	<i>Rasa</i>	<i>Ma.</i>					+	+		+
		<i>Ti.</i>	+				+	+	+	+
2.	<i>Guna</i>	<i>L.</i>								
		<i>G.</i>	+				+	+	+	+
		<i>Sn.</i>								
3.	<i>Virya</i>	<i>U.</i>	+	+					+	
4.	<i>Vipaka</i>	<i>Ma.</i>								+

Table 5 Rogagnata –

Rogagnata according to different nighantus are as follow –

Sr.No	Rogagnata	DN	So.N	MD	MN	KN	BP	R.N	Sha.N.	N.Sh.
1.	<i>Vishamajwar</i>	+						+	+	
2.	<i>Prameha</i>	+				+		+		
3.	<i>Arsha</i>	+						+		
4.	<i>Shopha</i>	+	+					+		
5.	<i>Santap</i>	+						+		
6.	<i>Shula</i>		+							
7.	<i>Kitanashak</i>		+							
8.	<i>Vishaghna</i>					+	+		+	
9.	<i>Krumi</i>					+	+		+	
10.	<i>Kshata</i>						+		+	
11.	<i>Kasa</i>					+	+		+	
12.	<i>Chardi</i>				+	+	+		+	
13.	<i>Jwara</i>				+	+	+		+	
14.	<i>Swash</i>				+	+	+		+	
15.	<i>Atisar</i>				+	+	+		+	
16.	<i>Shosh</i>				+	+	+		+	
17.	<i>Rashayana</i>				+	+	+		+	+
18.	<i>Bruhan</i>				+	+	+		+	+
19.	<i>Vrushya</i>					+				+
20.	<i>Trishna</i>									+
21.	<i>Hridroga</i>									+

Table 6 Effect on Dosha, Dhatu and Mala:

Effect on Dosha –

Sr.no.	GRANTHA	DOSHAGHNATA
1	<i>Sushruta Samhita</i>	<i>Vatapittaghna</i>
2	<i>Astanga samgraha</i>	<i>Vatapittaghna</i>
3	<i>Dhanvatari Nighantu</i>	<i>Vataghni</i>
4	<i>Madanpal Nighantu</i>	<i>Tridoshagna</i>
5	<i>Kaidev Nighantu</i>	<i>Tridoshagna</i>
6	<i>Bhavaprakasha Nighantu</i>	<i>Tridoshagna</i>
7	<i>Raja Nighantu</i>	<i>Vataghni</i>
8	<i>Rajavallabh Nighantu</i>	<i>Kaphapittagna</i>
9	<i>Shaligrama Nighantu</i>	<i>Tridoshagna</i>
10	<i>Priya Nighantu</i>	<i>Tridoshagna</i>