

EXPLORING PHARMACOLOGICAL POTENTIALITY OF TRIMADA IN AYURVEDA CLASSICS

Dr. Sahil Mahajan^{1*}, Dr. Rosy Gupta² and Dr. Priyanka S. Thakur³

¹MD Scholar, Dravyaguna Department, Post Graduate Training and Research Institute
Government Ayurvedic College, Patiala (Punjab) - 147001 India.

²Incharge & Reader, Dravyaguna Department, Post Graduate Training and Research Institute,
Government Ayurvedic College, Patiala (Punjab) - 147001 India.

³Lecturer, Kayachikitsa Department, Post Graduate Training and Research Institute,
Government Ayurvedic College, Patiala (Punjab) - 147001 India.

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*Corresponding Author

Dr. Sahil Mahajan

MD Scholar, Dravyaguna
Department, Post Graduate
Training and Research
Institute Government
Ayurvedic College, Patiala
(Punjab) - 147001 India.

ABSTRACT

Trimada is a unique Ayurvedic combination of three herbs *Chitraka* (*Plumbago zeylanica* Linn.), *Mustaka* (*Cyperus rotundus* Linn.) and *Vidanga* (*Embelia ribes* Burm.f.) and comes under *Mishraka Gana*. The contents of a *Misharka Gana* (polyherbal combinations having more than one basis of classification) generally act in synergism and potentiate the effects of each other. In *Brihatryi* i.e. *Charaka Samhita*, *Sushrut Samhita* and *Ashtang Hridaya* all three drugs are mentioned in different *Mahakshayas* and *Ganas* but *Trimada* name is missing. *Trimada* as combination is mentioned in ***Bhaishajya Ratnavalli 18th AD & Mahaoushadha Nighantu 19th AD***. The *Rasapanchaka* of all the three drugs is discussed separately as the pharmacology in Ayurveda is understood on its basis only. Synonyms and their botanical description are also discussed to understand the proper drug identification. Common actions of contents of *Trimada*, on the basis of their *gunas*, is indicated in classical texts for various diseases like

Agnimandya, *Sthaulya*, *Medoroga*, *Krimiroma*, *Ajeerna*, *Kushtha*, *Kasa Pandu*, *Urustambha*, *Kamla*, *Arsha*, *Gulma*, *Amavata*, *Shotha* etc. It can be concluded that overall *Trimada* has *Agnivardhan Karma* which means that it is basically metabolism corrector, because of *Katu Rasa*, *Katu Vipaka* and *ushan- tikshana gunas*.

KEYWORDS: Trimada, Mishraka Gana, Bhaishajya Ratnavalli, Mahaoushadha Nighantu, Amapachana.

INTRODUCTION

The contents of Trimada- a polyherbal Ayurvedic combination have been used in Indian Traditional Medicine since ancient times, but the term Trimada is highlighted in Bhaishajya Ratnavalli 18th AD^[1] & Mahaoushadha Nighantu 19th AD.^[2] It consists of three herbs namely “Chitraka” (*Plumbago zeylanica* Linn. Family- Plumabaginaceae), “Musta” (*Cyperus rotundus* Linn. Family-Cyperaceae) and “Vidanga”(*Embelia ribes* Burm. F. Family-Myrsinaceae) in equal ratios. In general “Mada” means inebriant but none of these drugs has been documented for such action nor the combination. Another meaning of “Mada” as adjective is – the one that gives happiness and feeling of well-being. This is more suitable here as its use generates happiness by being healthful through basic action of Amapachana. There is not much explanation given about the uses of Trimada in Ayurvedic classics, so here it is being explored for its pharmacological uses. The contents of a Misharka Gana generally act in synergism and potentiate the effects of each other. The polyherbal drug formulation in today’s era of evidence-based medicine is being emphasized from WHO also.^[3]

Classical Actions and Uses of trimada

The only reference regarding actions and uses of Trimada in Mahaoushadha Nighantu in Sanmkhaya Varga- Says that the combination is said to pacify Kapha, improve Mandagni (Digestion and Metabolism), relieve Kasa (Bronchitis) and Krimi (Macro and Microorganisms).

Literary review of all drugs of Trimada in Classical Texts –All the three contents find common mention in following

S. No.	Ref./Ch./Sh	Form or Preparation	Actions & uses
<i>Charaka samhita sutrasthana</i>			
1.	4/11(11)	<i>Triptighana Mahakshaya</i>	<i>Triptighana</i>
<i>Charaka samhita chikitsasthana</i>			
2.	1/4-14	<i>Dvitya Indrakta Rasayana</i>	<i>Rasayana</i>
3.	7/103	<i>Kusthadya Taila</i>	<i>Kushtha</i>
4.	7/112	<i>Kanakshiri Taila</i>	<i>Kushtha</i>
5.	15/189	<i>Panchama Kshara</i>	<i>Grahani</i>
6.	16/73	<i>Mandoor Vatak</i>	<i>Pandu, Kustha, Urustambha, Kamla</i>
7.	18/178	<i>Jivantyadi Leha</i>	<i>Pancha Kasa</i>
<i>Charaka samhita kalpasthana</i>			

8.	7/54	Trivritadi Modaka	Virechana
Sushruta Samhita- Chikitsasthana			
9.	12/11	Navayasa Lauha	Prameha
10.	10/4	Yava Kalpa	Kushtha, Prameha
Sushruta samhita uttaratantra			
11.	39/241	Panchgavya Ghrita	Vishamjwara
Ashtanga Hridaya Chikitsa Sthana			
12.	9/104	Kwatha	Kapha Atisara
13.	12/25	Rodrasawa	Prameh, Arsha, Shvitr, Kushtha
Ashtanga hridaya uttar tantra			
14.	35/57	Churna	Garvisha
Sharangdhara Samhita- Madhyama Kanda			
15.	2/140	Brihatmanjisthadi Kwatha	Beneficial in eighteen kind of Kushtha
16.	6/30	Sudarshan Churna	All kinds of fever, Kasa, Shwasa, Pandu, Madaroga, Kamla
17.	7/6	Bahu Shaalguda	Arsha, Gulma, Vatoudara, Amavata, Prameha
18.	7/34	Mandoor Vatak	Kamla, Pandu, Kushtha, Shotha and Urustambha
19.	7/40	Chandraprabha Vati	In twenty kinds of Prameha
20.	7/90	Triphala Modaka	All Types of Kushtha, Tridoshaj Roga Bhagandar, Paleeha and Gulma
21.	10/20	Kumari Asava	Beneficial in twenty kinds of Prameha, and eight types of Udara Roga
22.	10/34	Loha Asava	Pandu Roga
23.	10/55	Devdarvadi Arishta	Prameha, Vata Roga, Arsha and Grahani
24.	10/79	Dashmoola Arishta	Vata disorders
Kashyapa samhita chikitsasthana			
25.	13-23	Traivrit Yoga	Dushaprajata
Chakradatta samhita chikitsasthana			
26.	36/18	Navaka Guggulu	Sthoulyahara

Classification of trimada contents in classics

S. No.	Drug	Charaka samhita	Sushruta Samhita	Ashtang hridayam
1.	Chitraka	Deepaniya Mahakshaya	Aragwadhadi Gana	Mustadi Gana
		Lekhaniya Mahakshaya	Varunadi Gana	Vamana Gana
		Triptighana Mahakshaya	Mushkakadi Gana	Aragwadhadi Gana
		Arsoghana Mahakshaya	Mustadi Gana	Varunadi Gana
		Bhedaniya Mahakshaya	Amalakyadi Gana	Mushkakadi Gana
		Shoolprashmana	Pippalyadi Gana	

		<i>Mahakshaya</i>		
		<i>Katuskandha</i>		
2.	<i>Mustaka</i>	<i>Lekhaniya Mahakshaya</i>	<i>Vachadi Gana</i>	<i>Tikta Gana</i>
		<i>Kandughana Mahakshaya</i>	<i>Haridradi Gana</i>	<i>Vachadi Gana</i>
		<i>Triptighana Mahakshaya</i>	<i>Mustadi Gana</i>	<i>Mustadi Gana</i>
		<i>Stanyashodhan Mahakshaya</i>	<i>Katu Varga</i>	<i>Kaphanashak Gana</i>
		<i>Trishnanigrahan Mahakshaya</i>		
		<i>Tikta Skanda</i>		
3.	<i>Vidanga</i>	<i>Triptighana Mahakashya</i>	<i>Sursaadi Gana</i>	<i>Vamaka Gana</i>
		<i>Kusthaghana Mahakashya</i>	<i>Pippalyadi Gana</i>	<i>Sursaadi Gana</i>
		<i>Krimighana Mahakashya</i>		<i>Vatsakadi Gana</i>
		<i>Shirovirechanopag Mahakashya</i>		
		<i>Katu Skandha</i>		

Rasapanchaka

S. No.	Name of drug	Rasa	Guna	Virya	Vipaka
1.	<i>Chitraka</i>	<i>Katu, Tikta</i>	<i>Laghu, Ruksha, Tikshna</i>	<i>Ushna</i>	<i>Katu</i>
2.	<i>Mustaka</i>	<i>Tikta, Kashya, Katu</i>	<i>Laghu, Ruksha</i>	<i>Shita</i>	<i>Katu</i>
3.	<i>Vidanga</i>	<i>Katu, Tikta</i>	<i>Laghu, Ruksha, Tikshna</i>	<i>Ushna</i>	<i>Katu</i>

Trimada in general comes out to be Katu, Tikta, Laghu, Ruksha, Tikshna, Ushna Veerya, Katu Vipaka.

Synonyms

1. Chitraka^[4]

Chitraka, Dwipi, Vyala, Pathina - being fast in action like a leopard.

Agnika, Analnama, Ushana, Deepaka, Jrana, Daruna- being of fiery hot nature

2. Mustaka^[5]- Tubers are in clusters & grows gregariously.

Kacchotha, Gangeyi, Varidnamkam - Grows in aquatic and sub-aquatic regions.

Kuruvin, Prachya- Found particularly in East.

Krodestha- Liked by pigs.

Granthila- Tubers are nodular.

Sugandhi- Aromatic in nature.

3. Vidanga^[6]

Vidanga, Krimighana, Jantunashana, Bhasmaka- Remedy for worms

Chitratandula, Shvetatandula- After removing the pericarp seeds are peculiarly white spotted.

Vella- It is a weak plant with delicate and flexible branches.

Kirita, Kairala- It is a shrub growing in hilly region mostly of North-East and regarded as the best of anthelmintic drugs.

Botanical description

1. *Chitraka*^[7]

Latin name - *Plumbago zeylanica* Linn.

Family -Plumbaginaceae

Habit: A perennial herb, sometimes, in shady places, subscandent; stems 0.6-1.5 m. long, somewhat woody, spreading, terete, striate, and glabrous. **Leaves:** thin, 3.8-7.5 by 2.2-3.8 cm. ovate, subacute, entire, glabrous, somewhat glaucous beneath, reticulately veined, shortly and abruptly attenuated into a short petiole. **Flowers:** flowers in elongate spikes; rhachis glandular, striate; bracteoles ovate, acuminate, shorter than the calyx, glandular or not. **Roots:** are long and slightly branched with very less secondary roots, having a smooth and unbroken texture.

Part Used: Root

2. *Mustaka*^[8]

Latin name - *Cyperus rotundus* Linn.

Family - *Cyperaceae*

Habit: A large scandent shrub, branches long, slender, flexible, terete, with long internodes, the bark studded with lenticels. **Leaves:** shorter or longer than the stem, narrowly linear, 4-8mm. broad, finely acuminate, flat, 1-nerved. **Inflorescence:** Umbel simple or compound; rays 2-8 the longest reaching 7.5cm. Long, bearing short spikes of 3-10 slender spreading red brown spikelets. **Fruit** - Nut 1.6mm. long, broadly obovoid, trigonous, greyish black. **Stem:** Glabrous; stolons elongated, slender, 10-20 cm. long, bearing hard ovoid tunicate black fragrant tubers 0.8-2.5 cm. diameter stems subsolitary, 10-75 cm. long, triquetrous at the top, sometimes tuberous at the base. **Rhizome** - long, slender, wiry stolons ending in a fleshy, blackish tuber.

Part used- Rhizomes

3. *Vidanga*^[9]

Latin name - *Embelia ribes* Burm. f.

Family - Myrsinaceae

Habitat: Large scandent shrub branches long, slender, flexible, terete, with long internodes, the bark studded with lenticels. **Leaves:** coriaceous, 5-9 by 2-3.8cm, elliptic or elliptic lanceolate, shortly and obtusely acuminate, entire, glabrous on both sides. **Flowers:** 5-merous, numerous, small, in lax paniced racemes. **Fruit** - globose, 3-4mm. diameter, smooth, succulent, black when ripe, like a peppercorn when dried, tipped with the persistent style.

Part Used- Fruits.

Chemical constituents

S. No.	Name of drug	Major chemical constituent	Others
1.	<i>Chitraka</i> ^[10]	Plumbagin & rich in alkaloids, flavonoids, and volatile oils	Chitranone, zeylanone
2.	<i>Mustaka</i> ^[11]	Volatile oils, flavonoids, and sesquiterpenes,	Cyperen I & II, Cyperenone
3.	<i>Vidanga</i> ^[12]	Embelin, Christembin, alkaloids and flavonoids	Quercitol, Vilangine

Classical Actions and Uses

- 1. *Chitraka*-** Deepana, Pachana, Lekhana, Medhohara, Bhedana, Vatanulomaka, Shoolprashman, Gudshothhar, Arshogana, Garbashyasankochak, Garbhsravkar, Pittasaraka, Grahi, Krimighana, Shothahara, Swedopaga, Jwaraghana, Kaphashamak.^[13]
- 2. *Mustaka*-** Deepana, Pachana, Jwaraghana, Lekhana, Sthoulyahara, Atisarahara, Amadoshahar, Garbashyasankochak, Shothahara, Twakadoshahara, Vishagana, Trishnanighrahana, Stanyashodhak, Krimighana, Mutrala.^[14]
- 3. *Vidanga*-** Deepana, Pachana, Medohara, Vishahara, Krimighana, Kusthahara, Pramehanashak, Vibandhnashak, Adhmanahara, Shoolahara, Triptinashaka, Mutrajanana, Anulomana, Rasayana.^[15]

Common actions of all the three drugs are compiled as below along with their potential uses

Actions	Uses	Pharmacological potentiality
<i>Deepana & Triptighan</i>	<i>Agnimandya, Tripti</i>	Gastrointestinal problems & Functional Dyspepsia
<i>Pachana, Amapachana</i>	<i>Ajeerna</i>	Metabolic disorders like Diabetes, hyperlipidemia, obesity

<i>Kaphahara</i>	<i>Kasa, Kapha</i>	Respiratory diseases
<i>Krimihara</i>	<i>Krimiropa</i>	Worm infestation, microbial diseases
<i>Srotoshodhan, Lekhana</i>	<i>Srotoavrodha</i>	Atherosclerosis, Cardiopathies
<i>Sthaulyahara, Medohara, Lekhana</i>	<i>Sthaulya & Medoroga</i>	Obesity, Dyslipidemia
<i>Panduhara, Kamlahara</i>	<i>Pandu, Kamla</i>	Anemia, Jaundice, Biliary stasis
<i>Kushthahara</i>	<i>Kushtha</i>	Skin diseases

Recent researched pharmacological actions

1. **Chitraka-** Antibacterial action, Antiviral action, Antioxidant action, Antihyperlipidemic, Antiplasmodial, Anticonvulsant, Antiarthritic, Wound-healing, Anti-inflammatory.^[16]
2. **Mustaka-** Anti-inflammatory Activity and Analgesic Activity, Antioxidant activity, Anti-diarrheal activity, Hepatoprotective activity, Antiulcer activity, Anti-Hyperlipidemia activity, Anti-allergic activity, Cardio protective activity, Anti-diabetic activity, Wound-healing activity, Antiobesity activity, Cytoprotective effects.^[17]
3. **Vidanga-** Antibacterial, Antifertility, Antiprotozoal, Anti-inflammatory, Antioxidant, Anthelmintic, Anti-diabetic, Anticonvulsant, Anticancer, Anti-hyperlipidemia, Wound-healing and Molluscicidal activity.^[18]

Discussion about pharmacological profile of *trimada*

From the above information about the three contents, *Trimada* has broad pharmacological profile and has scope in varied diseases. Its common action and uses are-

Deepana, amapachana, Agnivardhana- Overall *Trimada* has *Katu, Tikta rasa, Laghu, Ruksha guna, Ushna Virya* and *Katu Vipaka*, so it helps to stimulate different types of *Agni-Jatharagni, Bhutagni, Dhatwagni* and helps in *Amapachana* at various levels.

All this helps in proper digestion, metabolism and assimilation of dietary products generating energy and decreasing the need for frequent eating in the obese. In functional dyspepsia its *Triptighan* action improves appetite.

Srotoshodhan, Lekhana, Medohara- *Lekhana Karma* means to scrap away the extra deposits in *Dhatus* and *Malas*. *Katu Rasa* of *trimada* performs *Mamsa Vilekhana, Ushna, Tikshna Guna* helps in *Kleda* and *Meda Vilayana*. *Tikta rasa* and *Ruksha Guna* perform *Dhatu Shoshana*, thus dries up the liquefied *Kleda* and *Meda*.

It will help to scrap cholesterol from arteries in atherosclerosis and will help to avert cardiopathies.

CONCLUSION

Overall, *Trimada* has *Agnivardhan* action because of its *ushana*, *tikshana* characteristics, *Katu Rasa*, *Katu Vipaka* help to improve digestion and metabolism and ultimately breaks the pathogenesis of *Medoroga* (Dyslipidemia) because of *Lekhana*, *Deepana*, *Amapachana* action. When used collectively *Chitraka*, *Musta*, and *Vidanga* synergize to offer comprehensive therapeutic benefits. Their combined actions promote digestion, alleviate inflammation, combat infections, and support overall gastrointestinal health. Furthermore, the *Trimada* group's ability to balance the three *doshas*- *Vata*, *Pitta*, and *Kapha*- makes it suitable for a wide range of conditions, like metabolic disorders (Dyslipidemia, Obesity, Diabetes, and Atherosclerosis), skin diseases, worm infestation, microbial diseases, cardiopathies, digestive disorders, respiratory ailments, Anemia, Jaundice, and Functional Dyspepsia etc. Its role in all these metabolic diseases as antioxidant and detoxification needs to be explored more extensively.

REFERENCES

1. Sen SDGK. Bhaisjaya Ratnawali. Sidhipradha Hindi commentary. edited by Sidhi Nandhan Mishra published by Varanasi Chaukhamba Surbharati Prakashan. Paribhasa prakranam, 2019; 2: 24.
2. Pr. Aryadasa Kumara Singha. Mahausadha Nighantu with Vidyotini Hindi commentary edited by Sri Indradeva Tripathi Varanasi. Chowkhamba Vidyabhawan. First Edition. Sankhya Varg. Verse no, 1971; 16: 204.
3. Parasuraman, S., Thing, G. S., & Dhanaraj, S. A. Polyherbal formulation: Concept of Ayurveda. Journal of Pharmacognosy and Phytochemistry, 2014; 3(3): 157-159.
4. Acharya Sharma Priya Vrat, *Namrupjananam*, First edition, Varanasi, Satyapriya Prakashan, 2000; 82-83.
5. Ibid p, 157.
6. Ibid p, 172.
7. Pandey Gyanendra. Dravyaguna Vijnana. Materia Medica-Vegetable Drugs.English-Sanskrit.Varanasi Krishnadas Academy, 2001; 1: 512 to 520.
8. Ibid p. 636 to 649.
9. Ibid p. 842 to 850.

10. Mulke V.G. & Ghotankar A.M. World Journal of Pharmaceutical & Medical Research Therapeutic uses of Chitraka (*Plumbago zeylanica* Linn.) with a note on its Pharmacological Actions- A Review, 2020; 6(4): 56-59.
11. Dr.Tyagi Tripti, Dr Sharma Sakshi et.al Overview evaluation of therapeutic actions of *Cyperus rotundus* Linn. (Musta) JETIR Feb, 2023; 10, 2: B507-B515.
12. Lal Bharat and Mishra Neeraj Importance of *Embelia Ribes*: An Update IJPSR, 2013; 4, 10: 3823-3838.
13. Pandey Gyanendra. Dravyaguna Vijnana. Materia Medica-Vegetable Drugs. English-Sanskrit. Varanasi Krishnadas Academy, 2001; 1: 512 to 520.
14. Ibid p, 636 to 649.
15. Ibid p, 842 to 850.
16. Mulke V.G. & Ghotankar A.M. World Journal of Pharmaceutical & Medical Research Therapeutic uses of Chitraka (*Plumbago zeylanica* Linn.) with a note on its Pharmacological Actions- A Review, 2020; 6(4): 56-59.
17. Dr.Tyagi Tripti, Dr Sharma Sakshi et.al Overview evaluation of therapeutic actions of *Cyperus rotundus* Linn. (Musta) JETIR Feb, 2023; 10: 2, B507-B515.
18. Lal Bharat and Mishra Neeraj Importance of *Embelia Ribes*: An Update IJPSR, 2013; 4: 10: 3823-3838.