

***Jyotishmati* (Celastrus panniculatus Willd.) - A *Medhya Rasayana* (Nervine Tonic) in Ayurveda: A Review**

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ABSTRACT

Jyotishmati is a brain tonic mentioned in *Ayurveda* for various psychological disorders. Its Botanical name is *Celastrus panniculatus* Willd. and belongs to Celastraceae family, in English it is called as Staff tree. It is a woody climber. Its seed oil is the official useful part, apart from it its seed and leaf are also used in various pathological conditions in *Ayurveda*. It has anti-arthritis, wound healing, hypolipidemic, and antioxidant activity. *Jyotishmati* seed extract possesses significant antinociceptive and anti-inflammatory activity. There are many studies available in recent era to prove its brain tonic activity.

Key Words *Medhya, Neuroprotective, Anti-oxidant, Brain tonic*

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INTRODUCTION

Jyotishmati (*Celastrus paniculatus* Willd.) is a well-known *Ayurvedic* '*Medhya Rasayana*' (nervine tonic), used extensively as a neuroprotective and memory enhancer, and in different central nervous system disorders¹. *Jyotishmati* is a woody climber belongs to the family Celastraceae (Table 1); in English it is called as Staff tree (Table 2), a well known herbal nootropic, distributed through the tropical and subtropical regions of India². The plant has shown significant pharmacological activities like anti-arthritis, wound healing, hypolipidemic, and

antioxidant activity. *Jyotishmati* seed extract possesses significant antinociceptive and anti-inflammatory activity³. The present study is planned to prove brain tonic activity of *Jyotishmati*.

MATERIALS AND METHODS

Ayurvedic literature was collected from all *Samhitas*, commentaries and *Nighantus*. Contemporary information was collected from modern books, journals and internet. All information was studied, analyzed and interpreted.

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RESULTS & DISCUSSION

In vedic literature there is no description or reference regarding the drug *Jyotishmati*.

Table 2 Taxonomical position

Kingdom : Plante
Division : Spermatophyta
Sub-Division : Angiospermae
Class : Dicotyledonae
Sub-Class : Polypetalae
Group : Disciflorae
Natural Order : Celastrales
Family : Celastraceae
Genus : Celastrus
Species : Paniculatus (Willd)

Vernacular Names:

Jyotishmati distributed along a wide geographically perimeter, has been named differently in different languages. Some of which are incorporated below.

Table 3 Vernacular names

Arabi - Haivekilkil Tilan Teilaphauna.
Bengali - Lataphataki
English - Staff tree, Black oil tree
Farasi - Kall
Gujarati - Malkangni
Garhwal - Malkauni
Hindi - Malkanguni
Kannada - Kouguaradu
Kumaon - Makangni
Latin - Celastrus paniculata
Marathi - Malkangoni
Malyalam - Palulavam, Uzhinja
Punjabi - Samkhu
Sanskrit - Jyotishmati
Telgu - Vavaji (Vekkudutoge)
Tamil - Adibaricham
Uriya - Katopesu
Urdu - Malhanguni

Acharya *Charaka* has mentioned the drug *Jyotishmati* among the 16 *Mulini*(root is used) drugs which are supposed to *Shirovirechana* dravyas (Table 3)⁴. This indicates that the useful part of *Jyotishmati* known to *Charaka* was root.

As a *Shirovirechana* drug it is indicated in many *urdhwajatrugata Vikaras* like, *krimija Shiroroga*, *Apasmara*, *Pramilaka*, *Pinasa* etc.⁵ The mention of *Jyotishmati* is also found in *Shirovirechanopaga* dravyas⁶ and *murdhavirechana dhuma*⁷. In the treatment of *Daha jvara* and *shitajvara* *Charakacharya* has mentioned *Jyotishmati* as one of the ingredients of '*Chandanadi Taila*' and '*Aguruvadi Taila*' (Table 4) respectively. Further in *Visachikitsa adhyaya* it is included as one of the ingredients of '*Gandhanamaagadahasti*'. *Sushruta* has mentioned *Jyotishmati* by the synonym '*Alavana*' in *Arkadigana*⁸. Besides this the mention of *Jyotishmati* is found in *Shirovirechana varga*⁹, *Adhobhagahara dravya*¹⁰ and *Tikta varga*¹¹. In *Nadivrana chikitsa*, it is mentioned in *varti* form as one of the ingredient¹². It has been prescribed in the treatment of *Bhagandara* in '*Syanada Taila*'¹³. In the treatment of *Udara*, *Sushruta* has mentioned *Jyotishmati phala Taila*¹⁴. Here, he has used the synonym '*Jyotishka*'. *Sushruta* has clearly mentioned the *sneha (Taila)* of *Jyotishmati* for *shirovirechana*¹⁵. He has also mentioned the properties of *Jyotishmati phala Taila* as *tikshna* and *laghu guna, katu rasa, katu vipaka, Ushna Virya* and *Mridu Virechaka*. It is also indicated in the treatment of *kapha, krimi, Kushtha, Prameha*. In *uttaratantra* it is mentioned as one of the ingredients of "*Brahmyadi Varti*" for *nasya*.

Bhela has mentioned the drug under the '*Shirovirechana varga*' (Bh.Si.7/8). It has been also indicated in the management of *Krimi* and

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Kustha in the form of *Anulepana* (Bh. Su. 4/6). Only one reference has been traced in *Kashyapa Samhita*. Acharya kashyapa has mentioned *lyotishmati* in '*Nastakarmiya Siddhi*' *adhyaya* by the route of *Nasya*. (ka.S. Page 121)

In *Astanga Hrdaya Jyotishmati* is mentioned by the Synonym '*Pita-Taila*' in '*Arkadi Varga*' and is used in the treatment of *kapha*, *krimi*, *kushtha*, and. *Visharoga* (A.Hr.Su.15/28) *Vagbhata* has also mentioned it in *Tikshnadhmapana Varga*. (Ah.Hr.Su.21/17). Following *Charaka* and *Sushruta* it is used in the treatment of '*Unmada* in the form of *Varti*, *nasya*, *anjana*, *lepa*, *dhupa*. (Ah.Hr.U.6/39). In the management of *khandoshtha* it has been used in the form of oil; but here *Vagbhata* has not mentioned its *bija* oil but *siddha* oil (Ah. Hr. U. 22/1). *Jyotishmati* has been mentioned by the synonym '*Priyavha* as one of the ingredients of '*Bhutarava Ghrit*' in the management of *Grahabadha*. (As. Hr. U. 5/19). In '*Shiroroga Pratishedha adhyaya*' (Ah. Hr. U. 24/35) *Vagbhata* has mentioned '*Jyotishmati* by the synonym '*Kakandaki*' as one of the ingredient of '*Nilinyadi Taila*' in the management of '*Palita*'; here he has clearly mentioned its useful part as '*Bija*', like *Bija Vagbhata* has also described the use of *Taila* in the treatment of '*Sidhma*'. - (Ah. Hr. Ci.19/75) Like this the *Siddha Taila* of *Jyotishmati* with other ingredients is used in *Bhagandara chikitsa* for external application. (As. Hr. U. 29/34). Like *Ashtanga Hrdaya*, *Sangrahakar* has also mentioned '*Jyotismati*' in '*Shirovirechana Varga*', '*Tikta Varga*' and '*Arkadi gana*'. *Chakradutta* has mentioned very different

use of '*Jyotishmati Patra*' which has been not mentioned by anyone. He has described the use of *Jyotishmati Patra* with *javapuspa* in the treatment of '*Jirna nashtartava*'.

In '*Samhita Period*' majority of *Granthakar*s have mentioned *Jyotishmati* as '*Shirovirechana draya*'. *Nighantus* were the first who critically observed the '*Medhya*' effect of *Jyotishmati*. *Dhanvantari Nighantu* has mentioned this drug in '*Guducyadi Varga*' and '*Shirovirechana Gana*.' He has given the synonym '*Katabhi* and mentioned its *medhya* property with *varnya* property. *Shodhala Nighantu* has mentioned it in '*Guducyadi Varga*' and *Tailavarga*. In *Madanapal Nighantu Jyotishmati* is included in '*Abhayadi Varga*' and mentioned it as '*Vanhibuddhismritiprada*'. In *Kaiyadeva Nighantu* the description of *Jyotishmati* is found in '*Aushadhi Varga*' with the synonyms like *Karkandi* and *Kakadani*. *Bhavaprakasha* has classified *Jyotishmati* in '*Haritakyadi Varga*.' He has mentioned about 8 synonyms including the famous synonyms like '*Paravatapadi*' and '*Kamguni*'. *Raj Nighantu* has given 10 synonyms of *Jyotishmati* and included it in '*Guducyadi Varga*'. He has given the properties of *Jyotishmati Taila* and described it as '*Atitikta*'. *Rajavallabha* mentioned it in '*Nanaaushadhi Varga*' with the properties like '*Medhya*' and '*Vranavisphotanashini*.' *Jyotishmati* is included under '*Haritakyadi Varga*' in *shaligrama Nighantu* with 7 synonyms. *Shaligram Nighantu* has described the *Jyotishmati Taila* with the synonyms '*Putitaila*' and '*Pitataila*.' *Vishnu*

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Vasudeva Godabole has mentioned *Jyotishmati* under '*Taila Varga*' in '*Nighantu Ratnakar*. A very wide description is found in *Nighantu Ratnakar* about *Jyotishmati*. About 18 different preparations are found. Among them '*Smritisagar Ras*', '*Laghu Vishagarbha Taila* and '*Marichyadi Taila*' are being used in day-to-day practice which has given significant results.

Many references of the drug '*Jyotishmati*' can be traced in *Rasa Granthas*. In *Rasa Ratnasammuchaya*, *Astamasika Rasayana* to become '*Srutihara*' the use of *Jyotishmati* is described as, in *Rasa Karma* it is used in the form of oil by the name of '*Kamnguni*' (R.R.S. 10/73). In *Jaluka bandha* it is used by the name of

'*Tejani*' (R.R.S. 11/93) In *Shodhana* process it is used for purification of silver (R.R.S. 5/31), Likewise in *Marana* process it is mentioned for *Vajra Marana*. Likewise '*Astamasika Rasayana*' it is also mentioned in '*Sahastra Varshayu Rasayana*' (R.R.S. 26/23) '*Sastyadhikatrinsat Varsayu Rasayana*' (R.R.S. 26/22). In *Bhaisajya Ratnavali*, in '*Paniya Vatika*' yoga the mention of *Jyotishmati* is found by the Synonym '*Rasapurtika*'. In '*Jvraparindra Rasa*' by the synonym '*Puti Taila*', *Tejovati* in '*Tejovatyadi Ghrt*', '*Kamguni*' in '*Indra Brahmi Vati*'. Other books dealing with *Rasasashtra*, '*Rasatarangini*' etc have also mentioned the use of *Jyotishmati* in several formulations.

Table 3 Classification

Sr.No.	Text	Classification
1	Charaka Samhita	Mulini : Ca.Su. 1/78 Shirsavirechana : Ca.Su. 2/5 Shirovirechanopaga : Ca.Su. 4/26 Murdhavirechana : Ca.Su. 5/26. Shirovirechana dravya : Ca. Vi. 8/151 Ushnavirya dravya : Ca.Ci. 3/267
2	Sushruta Samhita	Arkadi Gana - (Alavana) : Su.Su. 38/16 Shirovirechana Varga : Su.Su. 37/4 Adhobhagahara dravya : Su.Su. 39/4 Shirovirechana : Su.Su. 39/6 Shirorogahara : Su.Su. 45/115 Shirovirechana : Su.Ci. 31/5
3	Ashtanga Hridaya	Arkadi Varga (Pita Taila) : A.Hr. Su. 15/28 Tikshna dhumapana varga : (A.Hr.Su. 21/17)
4	Dhanvantari Nighantu	Guducyadi varga, (Dh. Ni. 1-258-259)
5	Rajavallabha Nighantu	Nana aushadhivarga, (Ra. Ni. 48. P. 170)
6	Madanapal Nighantu	Abhahyadi Varga (1:89)
7	Shodhala Nighantu	Guducyadi Varga (P.1, 265-266, P. 2. 247)
8	Bhavaprakash Nighantu	Haritakyadi Varga (1:171:172)
9	Shaligram Nighantu	Ashta Varga (3:68-69)

Synonyms with Interpretation-

Interpretation of some of the important synonyms according to their derivations is given below.

1) *Jyotishmati*: That has illumination, brightness and is a variety of creeper, which has resemblance to fire.

2) *Amrita* : That has new life and no death.

3) *Analprabha* : Which illuminates like fire.

4) *Agnidipta* : Which shines like fire or which act like appetizer.

5) *Agniphala* : Fruit of which resemble fire.

6) *Alavana* : Which is devoid of Lavana Rasa.

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- 7) *Durjara* : Which is difficult to digest.
- 8) *Durmada* : Which relieves, cures insanity.
- 9) *Girlata* : Gi - means intellect. It indicates that the creeper which alleviates the 'Tama' by improving the intellect. (Apte)
- 10) *Jyotishka* : Its properties are similar to that of *Agni*.
- 11) *Katabhi* : Its colour etc. resembles with saccharum sara (Sara) or dry grass, or which has similarity with temporal region of an elephant. (Apte)
- 12) *Kangu* : Seeds looks like Kangu dhanya
- 13) *Kanguni* : Which stimulates the *Agni*, improves the *Buddhi smriti* and thus gives pleasure.
- 14) *Kakandika* and *Kakandi* : Which has dots like that of eggs of cork.
- 15) *Kimshuka* : Its flowers has the colour of parrots beak.
- 16) *Kakadani* : To which the crows eat.
- 17) *Kayagnibhashaka* : Which stimulates the *kayagni* or appetizes.
- 18) *Matida* : Which improves the judgement.
- 19) *Medhya* : Which improves memory.
- 20) *Paravatapadi* : The roots of which are like feet of dove or pigeon.
- 21) *Parijata* : Which indicates the resemblance of flower of *Jyotismati* with that of *parijata*.
- 22) *Pitataila* : Which indicates that it contains yellow coloured oil.
- 23) *Putitaila* : Its oil has unpleasant smell.
- 24) *Satikta* : Which is bitter in taste.
- 25) *Suvega* : Which indicates its speedily action as 'Sirovirecaka'.

- 26) *Swarnalata* : The creeper *Jyotismati* is yellowish like gold.
 - 27) *Supingala* : Which has beautiful reddish brown colour.
 - 28) *Tejani* : Which is bright.
 - 29) *Tejaswini* : Which has brightness in it.
 - 30) *Tejovati* : Which is bright and sharp. Which also indicate the predominant 'Tej' mahabhuta in it.
 - 31) *Vayasadani* : Which is eaten by the crows.
 - 32) *Vayasi* : Which is very favourite for crows.
 - 33) *Yasaswini* : Which gives success in any work.
- Celastrus* - Privet, A bushy evergreen shrub.
Paniculata - Having an inflorescence. The axis of which is divided into branches bearing two or more flowers.

Rasapanchaka -

Guna- *Tikshna*

Rasa- *Katu, Tikta*

Vipaka- *Katu*

Veerya- *Ushna*

Prabhava- *Medhya*

Dosagnata - *Vatakaphaghna*

Karmukata - *Medhya, Dipana, Smritibuddhiprada, Vamya, Vrishya, Saraka, Dahaprada, Vajikar, Varnya*

Rogagnata - *Shirorogaghna, Prameha, Kushtha, Krimi, Udara, Visarpa, Pandu, Vrana, Visphota, Sidhma, Unmada, Apasmara*

Medhya Karma :

Pharmacology of *Ayurveda* is based on the theory of *Rasa, Guna, Virya, Vipaka* and *Prabhava* which were the simplest parameters in those days to ascertain the actions of the drug and diets.

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Charaka states that action of a drug may be in accordance with its *Rasa*, *Virya*, *Guna*, *Vipaka* and *Prabhava*. Giving importance to these factors in relation to body humours. *Maharsi Sushruta* has stated that the decrease, increase and equilibrium of the dosas depends on *Rasapancaka*.

Jyotishmati by its *usna*, *Tiksna gunas*, *Usna Virya* and *Katu Vipaka* increases *pitta*. Increased *pitta* stimulates *sadhakagni* which in turn generates *Medha*. Likewise due to its *usna*, *Tiksna guna* and *Katu rasa* it breaks the 'Avarana' of *Kapha* and *Tama* in abnormal state; due to which again functions of *Buddhi*, *Medha* and *Smriti*, are normalized. It has action especially on *Rasa*, *Rakta* and *Shukradhatu*. It is already cited that the best qualities of these are

responsible for good *Medha* and *Buddhi*. Further *Jyotismati* is used in oil form which due to its *Suksma*, *Tiksna* and *Vyavayi* properties; helps to reach directly upto micro faculties. Moreover *snigdha guna* of the *Jyotismati* oil performs dual function of stimulation of *Agni* and nourishment of *Medha*. Thus *Jyotismati* stimulates the intellect and sharpens the memory by increasing the grasping capacity and nourishes the *Medha*. Hence it is used in the psychiatry disorders, where the functions of *sadhakagni* and *Rasa*, *Rakta*, *Sukra* etc. *Dhatu* are hampered which reflects on the functions of *Medha*, *Smriti* and *Buddhi*.

Nisedh : *Ekantika pitta prakrati* or *Usna Prakrati*

Nivarana : *Godugdha* or *Goghrit*.

Table 4 Rogadhikara

Sr.No.	Yoga	Rogadhikara	Ref.
1	Agurvadya Tailam	Jvara	Ca.Ci-3/267
2	Gandhanama Agadahasti	Vishachikitsa	Ca.Ci.-23/65-76
3	Candanadya Tailam	Jvara	Ca.Ci.-3/259
4	Jyotishka Tailam	Udara	Su.Ci. -14/10
5	Syandana Taila	Bhagandara	Su.Ci.-8/51
6	Brahmyadi Varti	Unmada	Su.Ci. 62/12
7	Jyotishkadi Lepa	Kustha	Su.Ci. 9/10
8	Jyotishmati Dhuma	Kustha	As. Hr. 19/67
9	Bhutarava Ghrita	Grahabadha	As.Hr.U 5/19
10	Brahmayadi Varti	Unmada	As.Hr.U. 6/39
11	Jyotismatyadi Tailam	Bhagandara	As. Hr. U. 29/34

Mode of Action of *Jyotismati* on Psychosomatic Illness : (By Journal of Pharmacology Feb. - 1995 : Indian drugs)

Hertog and Nanavati studied the effect of *Jyotishmati* oil and its total poly ester on the learning process. Their experiments conducted on Albino rats gave little positive result. However karanth et al in their experiments have obtained

encouraging results. The effect of *Jyotismati* oil on human brain could not be explained. But now we understand cellular function of human system better than before, Bidwai et al have studied the effect of seed extract on the brain of albino rats, a study which has encouraged many neurophysicians. Amin has come forward with his hypothesis on the effect of *Jyotismati* which

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can be correlated with the chemistry of its oil. The action of the drugs on the psychosomatic illness may be due to its effect on the metabolic histotoxic anoxia, a phenomenon which relates to the inability of tissues to utilize molecular oxygen brought to them or increased oxygen needed by them due to cell intoxication, which in turn is produced by certain metabolites which obviously inhibit or inactivate the enzymes of the cells. Correction of this inhibition normalises the cellular metabolism of an individual and may be normalising the receptor capacity of the cells of an individual.

Modern Research-

Celastrus paniculatus, a traditional ayurvedic herbal medicine, was used to treat cognitive deficits in mentally retarded children. CP oil has been reported to have neuroprotective and antioxidant activities¹⁶. *Celastrus paniculatus* Ethenolic extract (CPEE) has a protective action against 3-NP induced HD like symptoms due to its strong antioxidant effect¹⁷. *Celastrus paniculatus* seed oil produced significant antidepressant-like effect in mice possibly through interaction with dopamine D₂, serotonergic, and GABAB receptors; as well as inhibition of MAO-A activity and decrease in plasma corticosterone levels¹⁸. the extract of *C. paniculatus* seed was highly efficacious in reducing the stress induced by least mobility for hours¹⁹. *Celastrus paniculatus* seed oil is preventing the onset of chronic aluminum induced cortico-hippocampal neurodegeneration and oxidative stress²⁰. In the present article, the

experimental and clinical evidence have been reviewed for various Indian herbal medicines such as *Centella asiatica*, *Bacopa monnieri*, *Curcuma longa*, *Clitoria ternatea*, *Withania somnifera*, *Celastrus paniculatus*, *Evolvulus alsinoides*, *Desmodium gangeticum*, *Eclipta alba*, *Moringa oleifera* and *Convolvulus pluricaulis*, which have shown potential in cognitive impairment²¹. Six Ayurvedic herbs, namely *Mucuna pruriens*, *Bacopa monnieri*, *Withania somnifera*, *Centella asiatica*, *Sida cordifolia*, and *Celastrus paniculatus* used in the treatment of Parkinson's Disease exhibited differential neuroprotective and protein aggregation mitigating effects in *C. elegans*²².

CONCLUSION

Jyotishmati (*Celastrus panniculatus* Willd.) is a very good brain tonic drug mentioned in *Ayurveda* and proved by modern research using different methods. In *samhitas* it is mentioned for its *Shirovirechana* action but its *Medhya* effect is mentioned by *Nighantus*.

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